

TERROIR: WINE REGIONS OF THE WORLD AND TRKİYE



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Introduction

This study aims to provide a comprehensive analysis of the dynamics of viticulture and wine production on both a global and national scale. By examining established international standards alongside specific regional characteristics, this work offers a detailed perspective on the historical evolution and current potential of the industry.

The research is structured around two primary axes. The first section establishes a global context by evaluating the world's leading wine-producing territories. This includes a technical review of traditional “Old World” producers, specifically France, Italy, and Spain, as well as an assessment of other major international exporters such as the United States, Australia, and Chile. These chapters explore the distinct regional attributes that define their respective market dominance.

The core focus of the study is dedicated to the viticultural landscape of Türkiye. Beginning with “A Brief History of Wine in Türkiye,” the text investigates the country's deep-rooted connection to winemaking. The subsequent chapters provide a granular analysis of major domestic wine regions. Production capacities, grape cultivation techniques, and regional variances are examined across the Mediterranean, Eastern Anatolia, Aegean, Central Anatolia, Southeastern Anatolia, Black Sea, and Marmara regions.

Ultimately, this work seeks to serve as a holistic reference point, bridging the gap between global industry trends and Türkiye's unique viticultural heritage.

CHAPTER 1

The World's Major Wine-Producing Countries

In 2024, the global monetary value of wine exports amounted to 35.9 billion EUR. The Old-World wine countries—France, Italy, and Spain—together accounted for 22.8 billion EUR of exports, followed by the New World countries of Australia (1.6 billion EUR), Chile (1.5 billion EUR), and the United States (1.16 billion EUR). When these wine-producing countries are compared in terms of production volume Italy, France, Spain, the USA, Australia, and Chile appear in that order. These six countries account for 67% of global production and approximately 75% of total exports in value (International Organisation of Vine and Wine [OIV], 2025)



Figure 1. European Union PDO and PGI Labels (“European Union Wine Label Information”, n.d.)

Therefore, gaining an understanding of the development of winemaking, the appellation systems, and the major wine regions in these countries is important for understanding global viticulture.

However, before addressing these topics, it is useful to briefly examine the European Union's wine classification system, as France, Italy, and Spain—all EU member states—employ appellation systems that significantly influence their wine sectors.

The EU, the world's largest wine economy, accounts for 48% of global wine production and 61% of global consumption (OIV,2025). To ensure standardization within member states, the EU categorizes wines under two primary classifications. Wines were previously labeled as “QWPSR” (Quality Wine Produced in a Specific Region) and “Table Wine,” but in 2011 these categories were replaced by the now-standard “PDO” (Protected Designation of Origin) and “PGI” (Protected Geographical Indication) (Figure 1) (Wine-Searcher.com, 2025).

PDO products are “produced, processed, and prepared within a given geographical area using recognized know-how”. Both natural and human factors contribute significantly to their characteristics and quality. PGI products, on the other hand, reflect the qualities of the geographical area where at least one of the stages of production, processing, or preparation occurs (Wine-Searcher , 2025).

Major Wine Regions in the Leading Wine Producing and Exporter Countries of the Old World

France

France is the first country that comes to mind when speaking of wine. This is rooted in the perception of wine—considered “the complement of French cuisine”—as an essential element of French culture. In the country, wine is regarded less as an industrial product and more as a work of art, and winemaking is a tradition passed

down through generations. This tradition, along with France's favorable geographical features for growing high-quality wine grapes, has contributed to the worldwide prestige of French wines and their status as global benchmarks. While the grape variety itself influences a wine's aroma and flavor profile, the region's climate and soil impart character, and winemaking techniques determine quality.

A striking indicator of the perceived quality of French wine is that although France ranks second after Italy in wine production volume, it generated the highest export revenue globally in 2024—11,6 billion EUR, corresponding to 18% of world wine exports (OIV, 2025). The “French Paradox” also contributes to this interest: although alcohol consumption per capita has been decreasing in France and in many European countries due to health concerns and anti-alcohol campaigns, consumer demand for high-quality wine continues to rise (Frochot, 2000; Nationmaster, 2020).

France, the birthplace of many of the world's most widely planted wine grape varieties (Cabernet Sauvignon, Sauvignon Blanc, Chardonnay, Pinot Noir, etc.) (OIV, 2017), places more emphasis on the region where the grapes are grown than on the grape varieties themselves. This is because a wine's defining qualities are believed to stem from the *terroir*—the combination of climatic, geographical, and human factors—rather than the grape alone. Wines made from the same grape variety can differ significantly depending on where they are grown. The French term *terroir*, which has been adopted into many languages, encompasses these unique local characteristics.

France's *terroir*-based AOC (Appellation d'Origine Contrôlée) system, implemented since 1935, has its roots in the 1855 Bordeaux Classification. Created by Bordeaux wine brokers for the 1855 Paris Exposition, the classification's quality criteria later became an official government-approved system for Bordeaux

wines. Once recognized as both a quality guarantee and a powerful marketing tool, the appellation system was expanded to other wine regions (Hall, 1996). The system strictly regulates which grape varieties may be grown in each region (Institut National De L'Origine Et De La Qualité [INAO], n.d.). For example, in the Champagne region, only Pinot Noir, Pinot Meunier, and Chardonnay may be used for champagne production; however, a small number of other varieties such as Arbane, Petit Meslier, Pinot Blanc, and Pinot Gris may be cultivated. Additionally, wines produced outside designated regions cannot use protected regional names, even if made using the same grapes and methods—as in the case of sparkling wines produced outside Champagne, which cannot be labeled “champagne” (Comité Champagne, 2020).

In 1990, the scope of the AOC system, originally applied to wine and alcoholic beverages, was expanded to cover all agricultural and food products. In 1992, the EU adopted the AOP (Appellation d'Origine Protégée) system to standardize agricultural production across member states, replacing AOC terminology. Wine remained outside this system until 2009 (INAO, n.d.; Sedimentality, n.d.).

Historically, French wines were classified into four main categories — Vin de Table, Vin de Pays, VDQS, and AOC — with Vin de Table as the lowest category, whose labels did not specify a region of origin. Following reforms, the *Vin de Table* category was replaced by *Vin de France* (started being introduced in 2010), allowing producers to indicate grape variety and vintage on the label, making such wines easier to market internationally under modern labeling rules (About-France.com, n.d.)



Figure 2. Classification of French Wines According to French and European Union Appellation Systems (Kaufman, 2011)

Above Vin de Table wines were the *Vin de Pays* (country/local wines), representing 15% of French wine production. These indicated both region and grape variety, and had to reflect the characteristic features of their designated areas. With the introduction of the AOP system in 2009, this category has been gradually replaced by the IGP (Indication Géographique Protégée) designation.

Another abolished category was VDQS (Vin Délimité de Qualité Supérieure), representing 2% of French wine production. These wines were considered one step below AOC and served as a “waiting room” for producers aspiring to reach AOC status. After 2011, most VDQS wines were reclassified as Vin de Pays.

At the top of the hierarchy is the AOC/AOP category, which accounts for half of France’s wine production. This category imposes strict regulations on grape-growing conditions, production methods, minimum alcohol content, yields per hectare, and blending proportions. Today, France has 360 AOC/AOP appellations (Puckette, 2016; Wine-Searcher, n.d.; About-France.com, n.d.; Sedimentality, n.d.). The country produces commercial wine in nearly all regions except the northern coast, with Bordeaux, Burgundy, Languedoc, Champagne, the Loire Valley, Alsace, Rhône,

Provence, and Corsica being the most prominent (Wine Paths, n.d.). Among these, Bordeaux, Burgundy, and Champagne hold the highest international recognition.

Bordeaux is divided into numerous subregions with renowned producers. The region is commonly described through its Left Bank (Médoc) and Right Bank (Saint-Émilion–Pomerol) areas. The Médoc on the Left Bank is home to the 1855 Classification’s five-tier “Grand Cru Classé” categories. Wines in the top tier, “Premier Grand Cru Classé,” are coveted collector’s items. The Right Bank contrasts sharply with the Left Bank in lifestyle and wine traditions, with smaller vineyards and more modest producers. While Médoc wines are Cabernet Sauvignon–dominant blends, the Right Bank is known for Merlot-driven blends. The most famous example is Château Pétrus, which, although of Premier Cru quality, was excluded from the 1855 Classification because it lies outside the Médoc region (Yalçın, 2006).

Burgundy, known for Pinot Noir, is five times smaller than Bordeaux yet has far more appellations. Vineyards are called *domaines* rather than *châteaux*, reflecting the land reforms following the French Revolution that divided large estates among smallholders. As a result, *négociants* play a major role in Burgundy, purchasing grapes or wine from small producers and bottling under their own labels. Burgundy also differs from Bordeaux in its emphasis on single-varietal wines (Ergenekon, 1999; Yalçın, 2006). Its most famous wine, Romanée-Conti, comes from a vineyard only the size of two football fields and is considered one of the world’s rarest and most expensive wines (Ergenekon, 1999; Yalçın, 2006).

Champagne is renowned for the sparkling wine that bears its name. A sparkling wine may be labeled “champagne” only if it is made from Chardonnay, Pinot Meunier, and Pinot Noir grown in the region and undergoes its second fermentation in the bottle, followed by at least 15 months of aging on lees (Comité Champagne, n.d.).

A wine made solely from Chardonnay is labeled *Blanc de Blancs*, while those made from Pinot Noir and/or Pinot Meunier are labeled *Blanc de Noirs*.

Added to the UNESCO World Heritage List in 2019, the Champagne region produces approximately 300 million bottles annually. It employs around 30,000 people—15,000 of them salaried—and an additional 120,000 seasonal workers during harvest. These figures highlight the labor-intensive nature of viticulture. In 2019, Champagne exported 297 million bottles, contributing nearly 5 billion euros to the French economy. Exported to 190 countries, Champagne accounts for 10% of global sparkling wine consumption (Comité Champagne, 2020).

Italy

Wine has been part of Italian culture since before the arrival of the Greeks in the 8th century BC. It's proven by archeological evidences like ancient grape seeds (1300-1100 BC), an ancient wine press over 3000 years old, as a more recent discovery organic residue (tartaric acid and its salt) found in copper storage jars dates back to 6000 years ago. Consequently, when the Greeks arrived in southern Italy bringing grapevines for cultivation, they were surprised to discover that wine production was already there. However, the viticulture was far being organized and limited. It is therefore to the Greeks that the establishment of true viticulture in Italy can be attributed. By sharing their knowledge and techniques, including the use of the grape press, they permanently transformed vine cultivation in Italy (Bicchieri, n.d.).

During the Roman era, wine production expanded significantly and became central to Roman culture. The Romans improved the grape press, introduced trellis systems, aged wine in wooden barrels, and developed early grape classification methods while studying the effects of climate and terroir. Winemaking was highly commercialized, with vineyards planted near garrison towns

and coastal areas to facilitate trade across the empire. Due to the massive surge in production and consumption, Emperor Domitian had to order the destruction of several vineyards in 92 AD to repurpose the land for food crops (Wine Investment, 2019).

By the fall of the Roman Empire, wine production had spread across much of Europe; however, on the Italian peninsula its popularity declined, becoming largely confined to the Roman Catholic Church and Christian monks, who produced wine primarily for ceremonial use. Italian wine, made by monks during the Middle Ages, regained popularity during the Renaissance, particularly among the upper class. With the development of winemaking and aging techniques, the quality of wine improved substantially in the 19th century. However, the phylloxera outbreak in the late 1880s destroyed many prestigious vineyards, and their replacements prioritized quantity over quality. The subsequent World Wars further affected the wine industry, primarily through labor shortages in agriculture rather than direct damage to the vineyards themselves. Consequently, production, quality and the reputation of Italian wine declined (Bicchieri, n.d.; Corsi et.al., 2018)

After the II World War, the government, which embarked on an economic development initiative, aimed to protect the high-quality wines produced by small, limited-number wineries. For this reason, it introduced a series of regulations in 1963, modeled after the French appellation system. Today, the Italian appellation system is regulated by Law No. 164, enacted in 1992 to replace the 1963 legislation. This law includes strict restrictions on many aspects—from the geographical boundaries of the appellation and the grape varieties and ratios used in wine production, to the minimum alcohol content and the required aging period before release—similar to the French Appellation system (Federdoc, n.d.)

Wines in Italy that fall outside the DOCG / DOC / IGT classifications are categorized as *Vino da Tavola* (table wine)

(Figure 3). Since these wines are not identified with the area in which they are produced, their labels are not required to state a region as well as vintage and varietal information. *VDT* wines are not bound by specific quality standards; however, this does not necessarily mean they are of low quality (DISNDIS, n.d.).

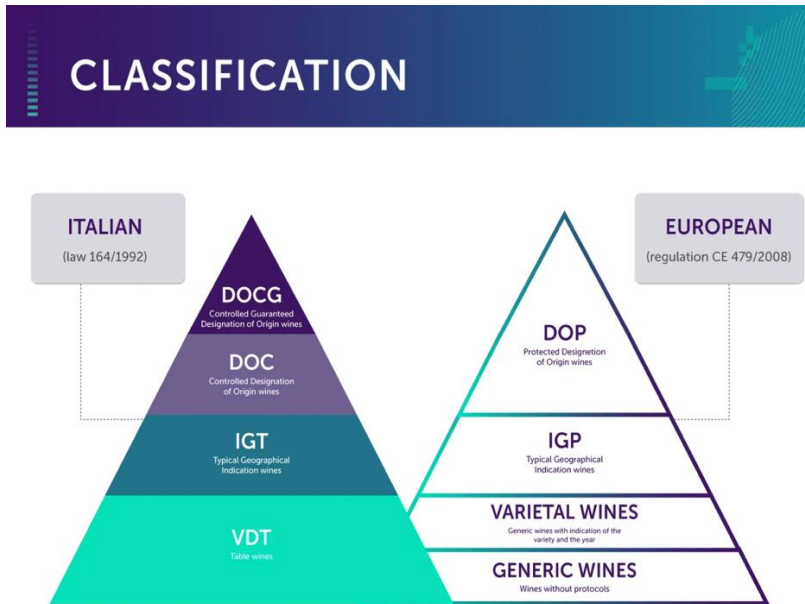


Figure 3. The classification of Italian wines according to the Italian and European Union appellation systems (ALC Labels, n.d.)

Above the VDT category is *IGT* (*Indicazione Geografica Tipica*), meaning “typical geographical indication.” Its EU equivalent is *IGP* (*Indicazione Geografica Protetta*), meaning “Protected Geographical Indication.” Producers are free to use either term on their labels. For a IGP/IGT designation, at least 85% of the grapes must come from the defined geographical area, and the wine must be produced entirely within that same territory. Introduced into the appellation system in 1992, this category was created for wines that are high-quality and often extremely expensive, yet nevertheless do not meet—or choose not to meet—the strict standards of DOC

and DOCG, as winemakers may prefer to use different techniques or grape varieties (e.g. Super Tuscans). The intention was to allow these wines to compete with France's *Vin de Pays* and Germany's *Landwein*. IGT/IGP wines carry the name of their region on the label but are not subject to restrictions regarding grape varieties or production methods (Italian Wine Guide, n.d. Avinturo, n.d.).

One step above is *DOC (Denominazione di Origine Controllata / Controlled Designation of Origin)*. Wines in this category must be produced according to regulations and strict controls. Each of the 333 DOCs in Italy in 2019 has its own set of rules regarding permitted grape varieties, maximum yield per hectare, alcohol content, minimum aging before release, and more (Suckling, 2020).

At the top of the red pyramid shown in Figure 3 is *DOCG (Denominazione di Origine Controllata e Garantita / Controlled and Guaranteed Designation of Origin)*. Introduced in 1980 in response to criticism that there were too many DOCs with varying quality, this category requires all wines to undergo analysis and testing by a government-approved panel (Button, 2020). In 2025, there were 78 DOCG regions, most of them in Piedmont (19), Veneto (14) and, Tuscany (11) (Guerra, 2025).

To harmonize with the EU food and wine classification system, Italy also adopted a second appellation framework. At the top of this system is *DOP (Denominazione di Origine Protetta / Protected Designation of Origin)*. The DOCG and DOC categories correspond to DOP within the EU system, while IGT corresponds to IGP. The VDT category, within the EU system, is divided into two groups: varietal wines (mono-cépage), in which the production year and composition appear on the label, and generic blends, which do not state a specific grape variety. Since EU regulations allow member states to continue using their own national classification

systems, Italian wine labels frequently include the abbreviations IGT, DOC, and DOCG (“Quality of Italian Wines,” n.d.; Vocabulary, n.d.).

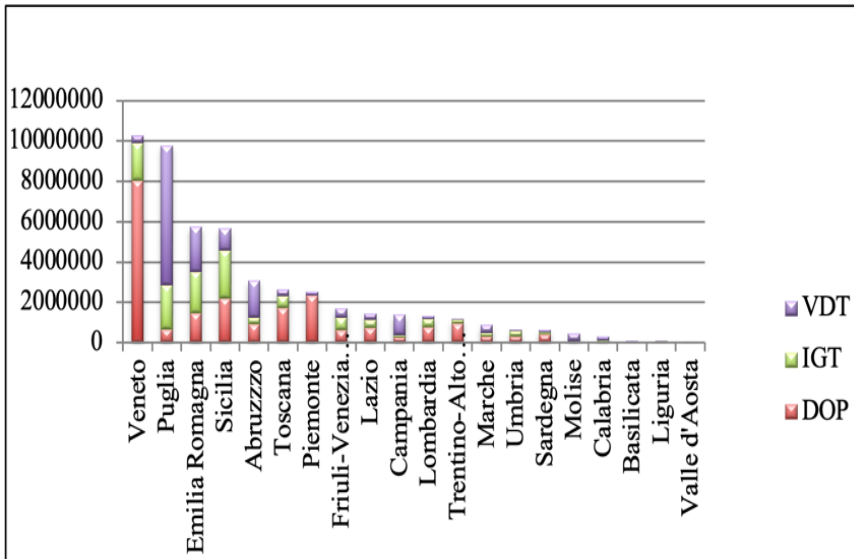


Figure 4. Production volumes (hl) of wines produced in Italian wine regions in 2019 by appellation category (Created using ISTAT data from 2020.)

Known in Ancient Greece as *Onetria*, meaning “the land of wine,” Italy is the only country where wine is produced in its all provinces (Yalçın, 2006). Figure 4 presents the wine production volumes of Italy’s 20 administrative regions by appellation category, based on data from the Italian National Institute of Statistics (ISTAT, 2020). The regions of Piedmont, Tuscany, and Veneto have particularly high shares of DOP-classified production. Additionally, Abruzzo, Sicily, Emilia-Romagna, and Puglia are major wine-producing regions in terms of volume. Among Italy’s wine regions, Tuscany—whose center is Florence, often called an “open-air museum city”—is one of the most well-known.

Tuscany was long affected by the general quality issues seen in Italian winemaking. By the 1970s, a group of innovative producers initiated a “quality revolution”: selecting the best vineyard sites, cultivating the finest clones of Sangiovese (the region’s traditional grape), and replacing the thousands of liters of medium-quality Slovenian oak casks with 225-liter French barriques. As a result, the quality of Chianti improved significantly. However, what truly captured global attention were the *Super-Tuscans*—Bordeaux-style blends produced outside the appellation system that began winning major international awards. These wines drew attention to Tuscany and increased recognition of Brunello di Montalcino, made from Sangiovese Grosso. With a broad flavor profile and aging potential of up to 20 years, these wines—together with Barolo and Barbaresco—form the “Three Bs” of Italian wine (Yalçın, 2006).

Piedmont, where the aforementioned Barolo and Barbaresco are produced, is another major wine region. Dominant red varieties include Barbera, Nebbiolo, and Dolcetto, while Moscato and Cortese are the prominent white grapes. Barolo and Barbaresco are powerful, high-alcohol red wines made from Nebbiolo in the villages after which they are named. The region also produces aromatic sparkling wines from Moscato and white wines from Cortese. Beyond wine, Piedmont is also renowned for its gastronomic treasure—the white truffle. The area around the town of Alba is considered the source of the world’s finest white truffles. The region attracts not only truffle hunters but also enotourists, with its seven wine routes (Giovannini, n.d.).

In 2019, Veneto—the region with the largest production capacity in Italy—had 14 DOCG, 29 DOC, and 10 IGP designations. More than 80% of its wine production consists of white wine. The region is famed for Prosecco, the sparkling wine that gained international popularity after the 1990s. Soave, Valpolicella, and Bardolino are also notable wines of the region. *Amarone*, a

Valpolicella wine produced using a special method and with an alcohol content between 14–16%, is well-suited for aging. With Venice as its center, Veneto is one of Italy’s major tourism destinations due to its wine regions, historical heritage, and natural beauty (Italian Wine Central, n.d.).

Spain

Located on the Iberian Peninsula, Spain ranks first in the world with a total vineyard area of 930 thousand hectares as of 2024. However, this global dominance in vineyard surface area does not translate to the highest output. With a production of 5.3 million tons of grapes, Spain is positioned behind China, Italy, France, and the United States in terms of total grape production. The country’s low yields in some regions, due to hot climates and poor soils, play a major role in these figures. Nevertheless, since 98% of its vineyards are planted with wine grapes, Spain is the world’s third-largest wine producer, with 31 mhl in 2024 (OIV, 2025; Cocampo, 2024; StatRanker.org., 2025).

Spain has soils where wild grapevines have existed for approximately 2.5 million years, while the cultivation of grapes as a domesticated crop dates to 4000–3000 BCE. Recorded Spanish winemaking history began around 1100 BCE, when the Phoenicians founded Cádiz and began producing wine. Later, the Carthaginians settled in the region, founded present-day Cartagena, and increased local production. When the Romans took control around 100 BCE, they introduced new viticultural practices, leading to grape cultivation throughout much of Spain. Roman techniques—such as fermenting in stone troughs and storing wine in smaller, more durable amphorae—are still used in parts of rural Spain.

The Muslim takeover of Al-Andalus in 711 negatively affected wine production, but after the Christian Reconquest, winemaking regained importance and expanded. By the 17th century, wine production had spread across northern and central

Spain. Until the late 18th century, Spaniards used Roman practices that were more than 2,000 years old for producing and storing wine. This began to change when producers in Rioja imported French oak barrels. Spaniards observed that these barrels not only preserved wine quality but also enriched the wines with additional aromas and flavors. With government support, French wine experts were invited to train local producers in winemaking techniques and technologies.

When France's vineyards were devastated by powdery mildew and phylloxera, reducing its wine supply, the country turned to Rioja to fill the gap, further increasing French influence in the region. This marked the beginning of Spain's modernization in wine production, starting in Rioja and spreading throughout the country. Although Spain's geography slowed the spread of phylloxera, the epidemic eventually reached Spanish vineyards, bringing some native grape varieties to the brink of extinction. The situation worsened with the Spanish Civil War (1936–1939) and World War II (1939–1945), which destroyed vineyards or left them abandoned, severely weakening Spanish winemaking.

Under Franco's dictatorship (post-war to 1975), Spain struggled to obtain the foreign investment and global market access needed for modernization. To cut costs and reduce competition, producers founded large cooperatives in the 1950s, producing inexpensive bulk wines. However, Miguel Torres, a prominent producer, introduced stainless-steel winemaking technology to Spain, achieving significant success and inspiring others to adopt the new method. Between 1950 and 1978, exports of Sherry increased dramatically. In addition, Rioja's 1970 vintage was praised as the "vintage of the century," notably enhancing Rioja's reputation.

Following Franco's death in 1975 and the restoration of democracy, Spain's wine market expanded, and investment increased. The industry's major leap forward came in the early 1980s. After Spain joined the European Economic Community (now

the EU) in 1986, the Spanish wine sector benefited from economic support and liberalized regulations—including the lifting of restrictions on irrigation, vineyard planting, and grape varieties. These reforms further improved conditions for Spanish wine production (Estreicher, 2013; Wecker, 2019; Spanish Wines, n.d.a).

Rioja was again the pioneer in establishing wine classifications. In 1902, a royal decree defined the geographical origin of Rioja wines, and in 1926 the first regulatory council was established. Jerez and Málaga followed. The most significant step came in 1932 with the introduction of the Spanish Wine Law, which created the *DO* (*Denominación de Origen*) appellation system. Nineteen DO regions were designated, each allowed to form its own regulatory council. This law remained in effect until 1970, when it was replaced by the Vineyard, Wine, and Alcohol Regulations Act (Fischer, 2019).

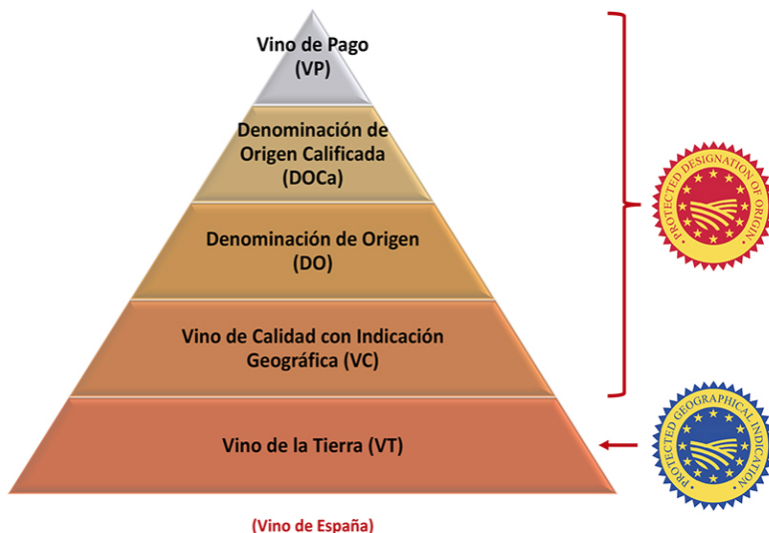


Figure 5. Classification of Spanish wines (Fisher, 2018)

In 1988, a royal decree introduced criteria for a higher-quality level above DO: *DOCa* (*Denominación de Origen Calificada*). Updates in 2003 created an even higher segment, *VP* (*Vino de Pago*)—similar to the French Grand Cru—designating single-estate wines produced using methods and grapes specific to a defined micro-region with distinctive terroir. As shown in Figure 2.4, these wines represent the highest classification in the Spanish Wine Law. Another category created by the same legislation is *VCIG* (*Vino de Calidad con Indicación Geográfica*)—wines from geographical indication areas that are considered higher quality than table wines. Labels may state both the vintage and the grape varieties. This level is viewed as a transitional step toward DO status, which requires a region to remain in the VCIG category for at least five years. At the lowest tier is *VT* (*Vino de la Tierra*), equivalent to France’s Vin de Pays. These wines aim to reflect regional character but are produced with flexible viticultural and winemaking methods. They may label the production year and grape varieties (Dehesa del Carrizal, n.d.; Spanish Wines, n.d.b).

Outside this classification and shown outside the pyramid in Figure 5 are *Vino de España* / *Vino de Mesa*—table wines with no specific designation. Their labels are not required to include region, grape variety, or vintage. However, these wines are not necessarily low-quality. Like Italy’s Super-Tuscans, many high-quality producers use this category because of the flexibility it offers in blending ratios and non-traditional winemaking methods (Fischer, 2019; Spanish Wines, n.d.b).

As an EU member state, Spain implements both its national wine law and the EU wine legislation. The EU classifies wines under two primary categories. The first is *PDO* (*Protected Designation of Origin*)—called AOP in France, DOP in Italy, and DOP in Spain. Under Spain’s national system, PDO includes the categories *Vino de Pago*, *DOCa*, *DO*, and *VCIG*. The second category is *PGI* (*Protected*

Geographical Indication)—called IGP in France and IGT in Italy—which corresponds to Spain’s Vino de la Tierra (VT) category. Spain currently has 96 DOP regions (including 19 VP, 2 DOCa, 68 DO, and 7 VCIG) and 42 PGI regions (VT) (Driscoll, 2019).

Among Spanish wine regions, the best-known globally is Rioja—the birthplace of Spanish winemaking and the country’s first DOCa. Rioja produces wines primarily from Tempranillo and Garnacha, and its centuries-old wineries make it an important destination for wine tourism. Spain’s second DOCa, Priorat, is gaining increasing international recognition for its high-quality Garnacha (Grenache) wines. Penedès, home of *Cava*—a rival to Italy’s Prosecco and France’s Champagne—is another major and historic wine region. Ribera del Duero, La Mancha, Rueda, and Jerez (famous especially for its Sherry wines) are additional key regions.

The Major Wine Regions in the Leading Wine-Producing and Exporting Countries of the New World

The United States of America

In the United States, where the legal drinking age is 21, approximately 270 million people are of legal drinking age. Research shows that only 49% of them consume wine. Although per-capita wine consumption (11.17 liters in 2018) is low compared with many other countries, the sheer size of the population makes the USA the world’s leading wine-consuming nation. Of the country’s 72.4-billion-dollar wine market, 24.5 billion dollars consist of imported wines. The USA—an important market for wine-producing nations—ranked as the world’s third-largest wine importer in 2024, importing 12.3 million hL of wine. At the same time, despite being the world’s fourth-largest wine producer, the USA exported 1.16 billion EUR’s worth of wine in 2024 (ranking tenth with 2.4 million hL), mainly to Canada, the EU, the United Kingdom, China, and Japan. All these figures highlight the

significance of the wine industry in the United States (Wine America, 2019; Thach, 2020; OIV, 2025, U.S. Department Of Agriculture, 2025).

The wine industry, which is of such importance to the United States today, does not actually have a long history. This is because the native grapevines of the continent differ significantly from *Vitis vinifera*, the species widely cultivated across Europe and the Caucasus for millennia for winemaking. After the discovery of America, immigrants attempted to produce wine using native grape varieties. However, because these varieties had small berries, high acidity, and simple flavor profiles, it was impossible to produce wines of a quality comparable to those of Europe. As a solution, *Vitis vinifera* varieties began to be planted in North America. Yet cold winters, humid summers, and fungal diseases hindered viticulture, and the presence of the grapevine pest phylloxera—against which *Vitis vinifera* had no resistance—further prevented successful cultivation.

Nevertheless, natural hybridization (cross-pollination) produced new grape types such as Alexander, Catawba, and Isabella, enabling small-scale wine production in almost every state. The true beginning of American winemaking, however, occurred after the discovery of gold in the Sacramento Valley in 1848, which drew large numbers of people to San Francisco and its surroundings. These newcomers soon realized that California possessed favorable conditions for growing *Vitis vinifera*. Cultivation expanded rapidly, and wines produced in wineries established after the 1850s were found to be much closer in taste to European wines. When tariffs on imported wines increased in 1875, California wines began to dominate the USA table-wine market. This trend strengthened further in the early 20th century as millions of immigrants from wine-drinking European nations created growing demand for affordable wine.

However, Prohibition—introduced through the 18th Amendment, which banned the production, sale, and transportation of alcohol nationwide—lasted from 1919 to 1933. It is important to note that alcohol consumption itself was not banned; home production of fruit juices and their fermentation for personal use remained legal. When California grape growers feared they would have to switch crops, European immigrants knocked on their doors, seeking grapes for home winemaking. As a result, vineyard acreage expanded significantly during Prohibition, though grape quality declined. When Prohibition ended, wineries—which had gone without production for years—had lost both expertise and skilled labor. Consequently, most grapes continued to be shipped out of state, a trend that persisted until the 1960s.

The second major transformation of the industry occurred in the 1960s, when technological advancements developed with support from the University of California were incorporated into winemaking. Around the same time, increased use of Sauvignon Blanc, Chenin Blanc, and later Chardonnay contributed to the rising popularity of California wines. A turning point came in 1976, when California wines were judged equal to—and in some cases better than—French wines in blind tastings by French experts. Their lower prices made them increasingly attractive to wine consumers. However, in the 1980s, anti-alcohol and anti-drug campaigns led by President Reagan caused a decline in wine consumption, resulting in a stagnant period for the industry.

In the 1990s, despite rising deaths from heart attacks and strokes among white American men, research revealed that the French—who consumed high-fat foods and smoked heavily—had far lower rates of cardiovascular disease. This phenomenon, known as the “French Paradox,” was attributed to high levels of red wine consumption among the French. Consequently, per-capita wine consumption in the United States rose again, revitalizing the wine

industry. Today, wine is produced in every U.S. state, but California—accounting for approximately 85% of national wine production—remains the undisputed leader. Moreover, 95% of exported American wines are from California. Thus, the term “American wine” is often synonymous with “California wine.” Other significant wine-producing states include Washington, New York, Oregon, Texas, Michigan, North Carolina, and Virginia (PBS, 2017; Wine America, 2019; History.com Editors, 2020).

It is useful to briefly highlight the most prominent wine regions in these states. When one speaks of American wine, California—more specifically Napa Valley—comes to mind. Globally renowned for its Chardonnay, Merlot, and Cabernet Sauvignon, Napa is the flagship region. Sonoma, another major region, stands out with its Pinot Noir, Cabernet Sauvignon, and Chardonnay. Paso Robles, located near San Francisco, is described as the “new darling” of the wine world. Washington—which significantly expanded its production capacity after 1960—is the second-largest wine-producing state, known for its Riesling, Chardonnay, Merlot, and Syrah. Its major wine regions include Walla Walla and the Columbia Valley. Oregon, home to 793 wineries, excels with Riesling, Chardonnay, and Gamay, but it is especially famous for the Pinot Noir wines produced in the Willamette Valley, which lies on the same latitude as Burgundy, the grape’s homeland.

New York ranks third in production volume and contributes 13.8 billion dollars to the state economy through wine. Its key wine regions are the Finger Lakes and North Fork. In Virginia—where wine production dates back to the early 17th century—the historic town of Charlottesville and its surroundings host high-quality wineries. Texas Hill Country is known for Tempranillo, Syrah, Albariño, Cabernet Sauvignon, and Zinfandel, all of which thrive in its hot and dry climate. Michigan’s Lake Michigan Shore region is

nicknamed “the Napa of the North.” Influenced by the nearby lake, it produces complex wines, and the Austrian variety Blaufränkisch has found favorable growing conditions there (Wine America, 2019; USA Wine Ratings, 2020).

When examining the classification of American wines, two types of appellation systems appear. The first is the American Viticultural Areas (AVA) system. According to the U.S. Alcohol and Tobacco Tax and Trade Bureau (TTB), which reviews and approves AVA applications, an AVA is “a delimited grape-growing region with distinctive geographic or climatic features that distinguish it from surrounding areas and that affect how grapes are grown.” Although often compared to the French AOC or Italian DOCG systems, AVAs impose far fewer regulations. The AVA system is based on geography and climate and does not include quality standards. There are no restrictions on permitted grape varieties, maximum yields, or winemaking techniques. Under federal law, at least 85% of the grapes used in a wine labeled with an AVA must be grown within that AVA, and the wine must be produced in the state(s) in which the AVA lies. Since the first AVA, Augusta, was approved in 1980, the number of AVAs has grown to 269. California again leads, with 149 AVAs (Mercer, 2020; Wine Institute, n.d.; TTB, 2023).

The second appellation system is based on political boundaries. For example, if a wine label indicates a state name, at least 75% of the grapes must have been grown in that state. California and Washington differ slightly, requiring 100% and 95% respectively. There are also varietal-labeled wines, which must contain at least 75% of the stated grape. Additionally, some American wines carry generic names such as Burgundy, Chablis, Champagne, or Claret. These wines do not claim similarity to their European counterparts; for example, “American Chablis” typically refers to a blended white table wine (Wine Institute, n.d.).

Australia

With its 146,128 hectares of vineyard area, Australia ranks 13th globally and, producing 1.2 billion liters of wine, is the world's 6th largest wine producer. Exporting nearly 70% of the wine it produces—primarily from Shiraz (known as Syrah in the Old World), as well as Cabernet Sauvignon, Chardonnay, Merlot, and Sauvignon Blanc—Australia ranks 5th in global wine exports. Although winemaking contributes 45.5 billion dollars annually to the national economy and represents an important economic activity, the history of viticulture in Australia dates back merely two centuries (Wine Australia, 2020).

Viticulture in Australia began when Captain Arthur Philip, the founder of the New South Wales Colony, brought the first vine cuttings from South America and South Africa. The vineyards planted around Sydney Cove failed due to humidity and poor vineyard management. They were later relocated to areas with better soil quality and abundant sunlight, such as the lower Parramatta River and the Hunter Valley. Beginning in the 19th century, viticulture expanded first to the Barossa Valley and then to regions that now constitute major vineyard areas. Winemaking began in the 1850s, with fortified wines dominating production until the mid-20th century. With the growth of the Australian economy in the 1960s and the rise in disposable income, interest in quality wine increased, driving producers to modify their production practices and inspiring the establishment of many new wineries (Wine Guide Australia n.d.; Australian Table Grape Association [ATGA], n.d.).

Today, Australia has more than 2,000 wineries across 65 wine regions. By blending traditional winemaking processes with innovations in bottling, grape breeding, and cultivation technologies, the country has significantly enhanced wine quality. Built largely upon Shiraz (Syrah) wines and iconic brands such as Penfolds and Lindeman, Australia has earned a significant reputation on the global

stage. A major factor in this success has been the strong encouragement and support from the Australian Government, particularly in international marketing. The government supports producers not only in areas such as taxation, natural resource management, and environmental regulations but also in innovation. Acting not as a restrictive authority but rather as a partner invested in industry growth, the government facilitated the establishment of the Australian Grape and Wine Authority (AGWA) in 2014 under the Australian Grape and Wine Authority Act 2013. In addition to R&D, AGWA invests in marketing activities, dissemination of research findings, export regulation, and the promotion and protection of the reputation of Australian wine. Working in collaboration with organizations representing winegrowers and producers, the Authority contributes to the development of the Australian wine industry in numerous ways (Mohan, 2016; Australian Government Federal Register of Legislation, 2014).

As part of the government-linked “Geographical Indications Committee,” AGWA also plays a critical role in defining wine region boundaries and evaluating applications for geographical indication (GI) status. Geographical indications, whose primary purpose is to legally protect the use of regional names, indicate that a wine is produced from grapes grown in the region displayed on the label. AGWA defines a GI as “a word or expression used in the description and presentation of a wine to indicate the country, region, or locality in which it was produced, or to suggest that a particular quality, reputation, or characteristic of the wine is attributable to its origin.” Although Australian wines traditionally reference grape varieties rather than terroir, the country began officially using GIs on March 1, 1994, following regulatory changes required by a trade agreement with the EU. Under this agreement, both parties committed to protecting each other’s geographical indications. Australia agreed to gradually discontinue using stylistic terms on wine labels—such as

Champagne, Burgundy, and Claret—which correspond to EU-protected regions. Notably, Australia’s GI system is far less restrictive than Old World appellation systems; the sole requirement is that 85% of the grapes used in a GI-labeled wine must come from the stated region (Mohan, 2016; Winetitles Media, n.d.).

Australia consists of six states, each home to multiple wine-producing areas, of which 65 hold GI status. South Australia’s Barossa Valley, the region with the country’s largest vineyard area, is considered its most prestigious wine region. Isolated from the rest of the world, it remains free from phylloxera, making it home to some of the oldest vineyards in the world. Featuring renowned producers such as Penfolds, Elderton, and Rockford, the region is best known for GSM blends—Grenache, Shiraz, and Mourvèdre. Another prominent region is the Hunter Valley in New South Wales, famed for its exceptional Semillon and home to more than 150 wineries. Yarra Valley, often described as Australia’s Burgundy, is celebrated for its excellent Pinot Noir and Chardonnay, as well as high-quality Cabernet Sauvignon, Shiraz, and sparkling wines. The famed French Champagne house Chandon even established a production facility there. Additionally, Western Australia’s Margaret River region, with its Mediterranean-like climate, is ideal for Cabernet Sauvignon, producing elegant and refined examples. The region accounts for 15% of Australia’s premium wine production and hosts more than 100 wineries. Other notable regions include Geelong, Heathcote, Mornington Peninsula, Rutherglen, Tasmania, McLaren Vale, Adelaide Hills, Clare Valley, Coonawarra, and Mount Barker (Puckette, 2020; Tourism Western Australia, n.d.; Wine Country, n.d.).

Chile

Although Chile is considered a New World wine country, its winemaking history dates back to the mid-16th century. After the Spanish conquest, early settlers quickly realized that the country’s

soil and climate were highly suitable for viticulture. Some sources state that the first vine cuttings were brought from Spain by Catholic clergy to produce sacramental wine for religious ceremonies such as baptisms. Other accounts claim that the explorer Cortés introduced vines to Chile. What is certain is that the first major vineyards were established in 1551 by Francisco de Aguirre, one of the Spanish conquistadors. These vineyards were located 500 km north of Santiago, and as settlers expanded southward, viticulture spread into the fertile region now known as the Central Valley. Wine production grew in tandem with vineyard expansion. By the time Chile gained independence in 1810, its wine industry was considered to be built on solid foundations. However, the true turning point in Chilean viticulture began in 1851, when producer Silvestre Ochagavía replaced old Spanish vines with French varieties. Cabernet Sauvignon, Sauvignon Blanc, and Semillon—planted in these vineyards—dominated Chilean winemaking until the 1980s. After this period, Merlot and Chardonnay gained popularity, followed by the adaptation of Riesling and Pinot Noir, increasing the diversity of grape varieties in the country. Chile was spared from the phylloxera epidemic that devastated European vineyards in the late 19th century, thanks to its natural geographic barriers: the Andes Mountains, the Pacific Ocean, and the Atacama Desert. This provided the country with a unique advantage. As phylloxera ravaged Europe, many unemployed winemakers relocated to Chilean wineries, bringing French winemaking knowledge and technology. With these advances, Chile exported wine to Europe for the first time in 1877.

In the early 20th century, Chile's wine industry was doing relatively well compared to Europe, but conditions shifted with World War I, followed by the Great Depression and World War II, which negatively affected wine industries worldwide. Subsequent political instability, restrictions on vineyard expansion, and high

taxes further hindered Chilean winemaking. A major revival began in 1974 when anti-alcohol legislation restricting wine commerce was repealed, followed by Chile's transition to a free-market economy in 1980. Producers embraced innovation, adopting modern technologies in wineries and advanced planting and irrigation techniques in vineyards. Spanish wine giant Miguel Torres played a pivotal role in introducing stainless steel tanks with temperature control—revolutionizing Chilean winemaking—and inspiring other producers to modernize their operations. Subsequently, numerous European investors entered Chile, either through partnerships or direct investment. As the industry improved, wine quality rose significantly. The turning point came in 2004, when in a blind tasting in Berlin, Viña Errázuriz's Viñedo Chadwick 2000 surpassed several prestigious French and Italian wines, while second place went to another Chilean wine, Seña 2001—cementing Chile's place on the global wine stage (Knowles & Sharples, 2002; Parode, 2010).

Projections estimate that Chile's wine industry will reach revenues of \$6.35 billion in 2023—a figure approximately 30% higher than in 2018 (Mendoza, 2020a). This growth parallels the global rise in Chilean wine's reputation. While many factors contribute to the increase in reputation, it is worth highlighting a few. One of these is that *Vitis Vinifera* grape varieties adapt perfectly to the country, producing results similar to their European counterparts. The second factor is that Chilean vineyards, which have not been affected by phylloxera, constitute some of the oldest vineyards on earth. As is well known, as vines age, the concentration of the grapes increases, which is reflected in the quality of the wine. In addition, despite being the world's narrowest country in terms of width, Chile's 2,600-mile coastline means it has a wide variety of microclimates, resulting in a great diversity of grape varieties. Furthermore, the sunny and dry weather conditions common to all these microclimates prevent the development of vine diseases,

thereby reducing the need for pesticides used by producers to eliminate vine pests. In a country experiencing water shortages due to dry climatic conditions, this situation has been turned into an advantage, and sustainable wine production has begun. With the support of the sustainable agricultural production programs that Chile has been carrying out with the FAO since 1980, sustainable wine production has also increased. It is known that wines produced through sustainable production methods are more appealing to consumers and that their exports, in particular, have risen. Today, wines produced using these methods account for 75% of the country's exported wine volume (VinePair, 2018a).

As mentioned above, in addition to whether or not they are produced sustainably, wines in Chile are classified into three categories under Law No. 464, enacted in 1994. The first of these is the category consisting of table wines (Vino de Mesa) produced from table grapes. The second category includes wines made from wine grapes grown anywhere in the country. The third category is the DO (Denomination of Origin) category, which is based on terroirs where climate, soil, vineyards, and the oenological practices used are homogeneous. Under this system, grape origins within DO wines are classified from the broadest to the most specific as region, sub-region, zone, and area. Although not as strict as the French appellation system, DO rules require that 75% of the grapes used in a DO-labeled wine be grown within that DO. Likewise, if a grape variety or vintage appears on the label, at least 75% of the wine must consist of that variety or vintage. The label phrase "*Embotellado en Origen*" indicates that the wine was bottled at the place of production, using grapes grown in vineyards owned or controlled by the producer within the same DO (Official Gazette of the Republic of Chile. , 1995).



Figure 6. Wine regions of Chile (VinePair, 2018b.)

Chile also classifies wines according to topographic categories based on where the grapes are grown: Costa (Coastal), Entre Cordilleras (Intermediate Mountain Range), and Andes. This additional system was needed because many DOs encompass areas with significantly different climatic characteristics (VinePair, 2018b).

In 2019, Chile generated 1.9 billion dollars in wine exports, 1.4 billion of which came from DO-labeled wines. Today, the country has six major wine regions. Figure 1.6 identifies these

regions and their sub-regions, as well as zones and topographic categories (represented in blue, green, and orange) (Workman, 2020; Mendoza, 2020).

Atacama, the northernmost region, includes the Copiapó and Huasco Valleys and is extremely hot and dry due to its desert environment. Wine production occurs mainly in narrow coastal areas where water is accessible, and output is low compared to other regions. The area is known for its Pisco brandies and sweet wines such as *Il Parajate*, produced in a Spanish style. South of Atacama lies the Coquimbo Region, which includes the Elqui, Limarí, and Choapa Valleys. Elqui and Choapa have desert-like climates and are known for their Syrah and Cabernet Sauvignon, while Limarí, influenced by the Pacific Ocean, has a cooler climate and excels in Chardonnay and Sauvignon Blanc. One of the country's most important wine regions, Aconcagua, located just 60 miles north of Santiago, is named after the highest peak of the Andes. The region includes the Casablanca, Aconcagua, and San Antonio Valleys, where meltwater from the mountains irrigates vineyards growing Carménère, Cabernet Sauvignon, Riesling, Sauvignon Blanc, Chardonnay, and Pinot Noir. The region, known for its red wines, gained prominence after winning medals in the 2004 Berlin blind tasting. Central Valley—the country's most productive region and one of the highest-output regions in all of South America—features numerous terroirs across its vast area, including sub-regions such as Maipo, Cachapoal, Rapel, Colchagua, Curicó, and Maule. Grapes grown here include Carmenère, Cabernet Sauvignon, Syrah, Merlot, Sauvignon Blanc, Chardonnay, Viognier, and Riesling. The region is also home to Los Vascos, the Chilean winery of France's Château Lafite Rothschild.

Further south, the Bio-Bio, Itata, and Malleco Valleys comprise the South Region, which has a cooler climate and high rainfall, resulting in shorter growing seasons. The area produces

mineral-driven wines made from Cabernet Sauvignon, Syrah, Pinot Noir, Riesling, Sauvignon Blanc, and Chardonnay. The southernmost Austral Region is the most challenging area for wine production, with cool weather and volcanic soils. The Osorno and Cautín Valleys are suitable for País, Muscat of Alexandria, and Pinot Noir (The Well Essentials, n.d.; Shapero, 2021; Banfi Wines n.d.).

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CHAPTER 2

A Brief History of Wine in Türkiye

Winkler and colleagues identified temperature as the most influential factor in the global distribution of viticulture, determining that grape-growing generally occurs between latitudes 20–52° in the Northern Hemisphere and 20–40° in the Southern Hemisphere (Karabat, 2014). From this perspective, Türkiye—positioned between 36–42° north—lies within one of the world’s most favorable climatic zones for viticulture. Accordingly, the country possesses nearly 6,000 years of viticultural heritage and more than 1,400 grape genotypes belonging to both wild and cultivated vine species (Kiracı & Şenol, 2017).



Figure 7. The geographic origin of *Vitis Vinifera* (Türker ve Alaeddinoğlu, 2016)

Archaeological research conducted over the past century suggests that, although the vine was cultivated in many regions of the world, its homeland (according to one widely accepted view among others) is the Caucasus, the southern Caspian region, and Northeastern Anatolia. The discovery of the world's oldest grape seeds, dating back to around 7000 BCE, at the Neolithic settlements of Shulaveri in Georgia and Çayönü in Diyarbakır supports this view. Similarly, excavations conducted by American researchers in the 1960s at the Neolithic site of Hacı Firuz Tepe in Iran uncovered six wine jars with a capacity of nine liters each. Carbon-14 dating of residues found in one of these vessels revealed that they dated to 5400 BCE, making them the earliest known wine remnants. Archaeological excavations in various regions of Anatolia likewise demonstrate that viticulture and winemaking were widely practiced in antiquity. Findings related to grapes and wine have been uncovered particularly in the Neolithic settlements of the Euphrates Basin such as Çayönü, Kurban Höyük, Nevali Çori, Körtiktepe, and Hassek Höyük. Moreover, the gold wine goblets and cups unearthed at Alaca Höyük near Çorum, dating to around 2500 BCE, provide evidence that viticulture and winemaking were also practiced in Central Anatolia during the Early Bronze Age (Yankı, 2015).

Given this context, it would not be inaccurate to assert that the history of viticulture—and consequently winemaking—in Anatolia is deeply intertwined with the civilizations that flourished in the region. Grapevines and grapes, which hold a prominent place in Anatolian culture, appear frequently in historical artifacts ranging from fountains and tombstones to exterior architectural decorations and kitchen utensils. These findings underscore the long-standing presence and cultural significance of grape consumption and viticultural practices across Anatolia. The Hittites are the first civilization that comes to mind when discussing viticulture and winemaking in Anatolia. Controlling much of Anatolia for six

centuries, the Hittites regarded viticulture as an important economic activity. Their law codes included specific provisions to protect vineyards and their produce. These texts emphasize that vineyards were considered more valuable than other land types and detail the penalties to be imposed for vineyard theft, burning, or damage. Wine, an integral component of Hittite culture from agricultural activities to religious ceremonies, is frequently mentioned in Hittite texts. These texts use the term *wiyana* to denote wine, a word believed to be the etymological root of modern Indo-European terms for wine such as *wine*, *wein*, *vin*, and *vinum* (Orhan et al., 2011).

The trade of Hittite wine was conducted by the Assyrians, through whom it was introduced to Mesopotamia. It is also believed that the Egyptians learned winemaking from the Hittites. The spread of viticulture westward from Central Anatolia was similarly influenced by the Hittites. The Minoan Civilization, established by the Hittites on Crete, initiated viticultural activities there, which later spread to the Peloponnese and Thrace. Likewise, the Greeks and Phoenicians—renowned for their maritime trade—carried viticultural practices to the western Mediterranean. The earliest vineyards in what is now France, a country synonymous with wine today, were founded by Greek settlers from Anatolia around 500 BCE. Viticulture continued to hold significance in Anatolia under the Phrygians, Urartians, and Persians (Karabat, 2014; Sağlam & Sağlam, 2018a; 2018b).

However, with the Turkification of Anatolia, wine gradually lost its prominence. In fact, since antiquity, Turks had consumed various alcoholic beverages known collectively as *içkû*. Among these beverages, grape wine is known to have been present at banquets organized by the state elite since the Göktürk period. The Uighurs produced wine—called *bor*—from grapes grown in their vineyards in Turkestan. Following the adoption of Islam, wine consumption among Turks steadily declined. Even so, during the

Seljuk period, although Sufi circles refrained from wine, many others—including members of the state elite—continued its consumption. Sultans such as Ghiyath al-Din Kaykhusraw I, Izz al-Din Kaykâwus I, and Ala al-Din Kayqubad I consumed wine at celebratory and entertainment banquets. The palace kitchens even contained a dedicated wine storage area called *şaraphane*, and officials responsible for managing it were known as *şarapsalar* or *şarabdâr* (Şahin, 2018).

During the Ottoman Empire, alcoholic beverages were strictly prohibited from its foundation onward, with violators punished by 80 lashes as part of the *hadd-i şürb* (drinking penalty). The prohibition was applied most strictly during the reign of Sultan Murad IV, who personally conducted inspections in disguise (Şimşek & Elaltuntaş, 2018). As alcoholic beverages were considered illegitimate by Ottoman religious and customary norms, they do not appear in the palace kitchen records. Although foreign envoys were not served alcohol at official dinners, they were supplied with alcoholic beverages at their residences (Güldemir, 2018).

Despite prohibitions, records from a 1637 census reporting the presence of approximately 6,000 liquor shops in Istanbul indicate that alcoholic beverages continued to be produced and consumed to a significant extent in the Ottoman era. Alcohol production, being an economic activity, was regarded as an important source of tax revenue for the state. Taxes were levied not only on the production of alcoholic beverages but also on establishments selling them. Muslims were permitted to engage in viticulture for producing products such as *sucuk*, *pestil*, *pekmez*, and *table grapes*; however, non-Muslims—allowed to practice their religion under the empire’s policy of tolerance—were permitted to produce, sell, and (under certain regulations) consume alcoholic beverages. Production for personal consumption among non-Muslims was exempt from

taxation. Until the 16th century, trade of surplus produce was taxed; with the emergence of taverns, taxes began to be levied through licenses known as *gedik*. Wine was the primary beverage served in these establishments. The fact that regions inhabited predominantly by non-Muslims had once been under Byzantine rule—where wine and bread were central to dietary culture—played a significant role. Although Christians and Jews were occasionally prohibited from making wine, such bans were later relaxed due to the state's loss of revenue. During periods of prohibition, vineyards were maintained and grape production continued, enabling rapid revitalization of winemaking whenever restrictions eased. The Tanzimat era saw the adoption of European technological advancements. Modern practices, such as re-establishing vineyards with American rootstocks between 1880–1885 and using sulfur dioxide during fermentation after 1889, significantly improved winemaking. Additionally, the devastation of European vineyards by phylloxera in the late 19th century caused substantial declines in European wine production. Demand was met by Ottoman wines, particularly those from Thrace. Ottoman wine exports reached a record 340 million liters in 1904. Unfortunately, World War I and the subsequent Turkish War of Independence inflicted severe damage on the wine industry, as on all other economic activities (Bulal, 2005; Öztürk, 2017; Anlı, 2019; Çelik, 2019).

During the War of Independence, despite opposition from the First Parliament, the “Prohibition of Intoxicants Law” (*Men-i Müskirat Kanunu*) was enacted on 28 April 1920. This law imposed monetary fines, imprisonment, and corporal punishment for the production, import, sale, and consumption of all alcoholic beverages, and it barred appeals against court rulings—resulting in significant negative effects on winemaking. As the law lacked government support, it was never fully enforced and was repealed in 1924. Additionally, during the population exchange following the

war, Greek communities—who had played a substantial role in wine production—left the country, and the regions they vacated were resettled by citizens unfamiliar with viticulture. As a result, many vineyards disappeared. While wine grapes constituted 70% of grape production in the Aegean Region before the departure of non-Muslim populations, this figure stands at approximately 5% today (Bulal, 2005; Karahanoğulları, 2008; Turkish Statistical Institute [TÜİK], 2021a).

Following the proclamation of the Republic, restructuring efforts were initiated nationwide, including in viticulture and winemaking. In 1926, Law No. 790, titled “Law on the Monopoly of Spirit and General Beverages,” was enacted. The law stipulated that the production, importation, and domestic sale of all spirits and general beverages—including wine, beer, and all types of liqueurs—within the Republic of Türkiye were under government monopoly. The government was authorized to delegate this monopoly to a Turkish joint-stock company, either partially or entirely. As stated in the law, alcoholic beverage production and trade came under state control; however, an exception was made for wine: while domestic trade was placed under monopoly, wine production and export were not restricted. Producers operating outside the state monopoly, then known as *İnhisar* (later TEKEL), were required to declare—prior to the harvest—the location where they intended to produce wine to be sold around their vineyards, and could do so only after obtaining a license from the monopoly administration. The law also included provisions for providing free supplies to producers exceeding a certain production threshold, as well as supporting grape growers cultivating wine grapes and those involved in exports (*İspirto ve Meşrubat-ı Küüliye İnhisarı*, 1926).

The first private enterprise of the Republican period was Vinikol Wines, established in 1926 by Nihat Kutman, who had received oenology training at the Geisenheim Institute of Viticulture

and Enology in Germany. Vinikol began production by making wine from indigenous grape varieties grown in the vineyards in Mürefte, and over time, the company increased the quality of its wines by cultivating foreign grape varieties as well. The company later changed its name to “Doluca” in reference to the highest hill of the Mürefte region. Today, Doluca remains one of the leading companies in the industry (Doluca Wines, n.d.). Another private initiative emerging in the same period was Kavaklıdere Wines. The company was the realization of the dream of Sevda and Cenap And—who had acquired a deep understanding of wine culture during their studies abroad—to settle in Ankara and engage in viticulture and winemaking. While in Kavaklıdere, an area where his family-owned land, Cenap And coincidentally met the Hungarian master Balaj, who worked as a foreman in the construction of the Ziraat Bank building and produced wine in the building’s basement for his own needs. Realizing Balaj’s knowledge and skill in winemaking, And proposed a partnership, and in 1929 the Kavaklıdere Turkish Wine Factory (Kavaklıdere Wines Inc.) began production. Although the company operated at a loss in its first year, it later produced sweet red wines suitable for the Turkish palate from the local “Kalecik Karası” grape, and its recognition grew significantly after Atatürk praised these wines at the Domestic Goods Exhibition held in Gençlik Park in 1932. Kavaklıdere Wines continued to develop over the years and became one of Türkiye’s major wine producers ((Kavaklıdere, n.d.a; Adım Adım Gurme, 2016).

Parallel to the developments mentioned above, the public sector began to invest in the wine industry in line with the principle of “statism.” Through the General Directorate of Monopolies, the aim was to foster viticulture and winemaking. As one of the first steps in Atatürk’s personally led efforts to advance Turkish winemaking, the French viticulture expert Prof. Emile Bouffart was

invited to prepare a report on local grapes and wine regions. Published as a booklet in 1930, this meticulously prepared scientific report underlined Türkiye's potential as a major viticultural geography while revealing that the professional competence of local vintners was nearly nonexistent. One year after the report, Tekel's first wine factory was established in Tekirdağ, a province of Thrace with an ancient winemaking tradition. In line with the same report, a trial station for European grape varieties was founded in Tekirdağ in 1935, followed by experimental vineyards in İzmir (1939), Ürgüp (1946), and Elazığ (1947). After Bouffart, another French expert, Prof. Marcel Biron, began working at the General Directorate of Monopolies as a consultant. Biron conducted inventory studies on Türkiye's quality wine grapes and established "Experimental Wine Houses." By 1946, 28 such facilities had been opened under the General Directorate of Monopolies, and wine production was carried out in each. Those that yielded successful results were converted into wine factories, while those that did not were eventually closed. These collective efforts brought a relative improvement in wine quality, and wine production reached its highest level in 1950 with 26 million liters. However, following the Democratic Party's rise to power in the same year, policy shifts adversely affected the wine sector, and production began to decline rapidly (Bulal, 2005; Demirbilek, 2012; French, 2018; Gök, 2019).

By the 1970s, 40% of wine production was carried out by 18 factories operated by the General Directorate of Tekel, the largest of which was the Tekirdağ Wine and Spirits Factory. Wine producers in the private sector were divided into two main groups. The first consisted of small producers with annual production under 100,000 liters, who generally suffered from insufficient capital and technology and therefore had low sales volumes. The second group comprised producers with an annual capacity exceeding 100,000 liters; some members of this group also exported wine. Nonetheless,

it is known that 95% of exported wine consisted of wines produced in Tekel factories (State Planning Organization of the Prime Ministry of the Republic of Türkiye [DPT], 1976). During these years, Tekel produced quality wines such as Buzbağ, Güneybağ, Hoşbağ, and Narbağ; however, quality issues persisted in the private sector. Chief among these problems were oxidation caused by poor-quality corks and non-standard bottles. Another significant issue was the excessive use of sulfur to prevent bacterial contamination due to unsanitary winery conditions and outdated technology, resulting in wines that frequently caused headaches (Yalçın, 2006).

The 1980s, marked by the transition to a free-market economy, were years of outward expansion for Türkiye. The tourism sector was particularly positively affected by these developments. With the rising number of tourists, the consumption of alcoholic beverages also increased, leading to a rise in wine demand. Consequently, wine producers faced a growing need to improve both the quantity and the quality of their production. Revenue generated from tourism was invested in technological advancements in the wine sector, and Turkish winemaking entered a new phase of growth driven by private entrepreneurs. Another reflection of this outward expansion was the growing number of Turkish citizens traveling abroad for education or leisure, increasing the population familiar with European cultural practices. This influenced urban lifestyles, particularly in cities like Ankara and Istanbul. Numerous French and Italian restaurants opened, and wine consumption—especially among high-income groups—became more widespread. Interest in wine rose, and demand for high-quality domestic wine increased. A notable example is the wine produced by Kavaklıdere in 1989: made from the nearly extinct Kalecik Karası grape, only 9,000 liters were produced, making it the most expensive wine in Türkiye due to high demand and limited supply. In subsequent years, it became a phenomenon, appearing on the wine lists of luxury restaurants. The

“Kalecik Karası” phenomenon revealed the presence of a consumer segment willing to pay high prices for quality wine, encouraging producers to invest in higher-quality production. In the same period, Doluca Wines began cultivating “noble” grape varieties such as Chardonnay, Sauvignon Blanc, Cabernet Sauvignon, and Merlot in vineyards established on the shores of the Gulf of Saros as part of a joint project. The wines produced from the first harvest in 1996 were released to the market in 1998 under the brand name “Sarafin” and were highly acclaimed. Similarly, vineyards cultivating French and Italian grape varieties were established in Şarköy by Güler Sabancı, and high-quality wines were produced from these vineyards under the consultancy of French experts. Furthermore, wines produced by companies such as Pamukkale, Sevilen, Yazgan, and Turasan—previously known mainly within their local regions—became sought after nationwide. All these developments created a significant leap in Turkish winemaking, marking what Yalçın describes as a “Turkish wine renaissance” (Yalçın, 2006; Anlı, 2011; Doluca Wines, n.d.).

In the 2000s, several important developments took place in Turkish winemaking. The first was the June 2003 regulation titled “Procedures and Principles Regarding the Domestic and Foreign Trade of Alcohol and Alcoholic Beverages,” which granted natural and legal persons outside Tekel the right to import alcoholic beverages—including wine—upon obtaining a compliance certificate (Domestic and Foreign Trade of Alcohol and Alcoholic Beverages, 2003). This allowed many high-quality foreign wines to be sold at affordable prices, creating a competitive environment for domestic wine. The second major development was Tekel’s withdrawal from the alcoholic beverage market by selling its alcoholic beverages division in 2004 to Mey Alcoholic Beverages Industry and Trade Inc., established by the Nurol Holding–Özaltın Construction–Limak Construction–TÜTSAB Joint Venture Group. The company was later sold to TPG (Texas Pacific Group) in 2006

and then to Diageo, the global leader in alcoholic beverages, in 2011. Its wine brand, Kayra, is currently one of the leading players in the domestic wine market (Tokmakoğlu, 2011).

Another significant development of this period was the emergence of wealthy businesspeople or former senior executives as new actors in the sector. Some took up winemaking during retirement, while others left their careers to pursue wine production, which they had previously engaged with only as a hobby. These individuals closely followed global developments in the wine sector, implementing modern viticulture and winemaking techniques while consulting internationally renowned viticulture and oenology experts. These boutique producers established their own vineyards, an essential factor in wine quality, as control over the vineyard belongs entirely to the producer. Furthermore, by building their wineries within the vineyards, they began practicing *château*-style winemaking, which has highly positive effects on wine quality. During these years, native grape varieties gained renewed importance, and several near-forgotten varieties—such as Hasandede, Merzifon Karası, Acıkara, Kınalı Yapıncak, Urla Karası, and Karasakız—were revived and reintroduced into economic circulation (Milor, 2012; Yalçın, 2019).

All of the positive developments outlined above occurred without a public policy framework. After the early Republican governments, no coherent policy concerning winemaking was developed. The state ignored the economic value of wine, a high value-added product, and did not support the sector. In contrast, countries that lead in winemaking have robust state policies for the sector, providing both financial support and scientific R&D funding. In Türkiye, the tax burden on alcoholic beverages exerts pressure on the wine sector. Another major negative development was the advertising and promotion ban introduced by Law No. 6487. Effective 11 June 2013, the law banned all forms of advertising and

consumer-oriented promotion of alcoholic beverages. It also prohibited campaigns, promotions, and events that encourage or incentivize the use or sale of these products. Additionally, the law banned alcohol imagery in TV series, films, and music videos and prohibited retail sales of alcoholic beverages between 22:00 and 06:00 (Presidency of the Republic of Turkey Official Gazette, 2013). Because these bans cover anything that may be considered “promotion,” producers were left unable to organize tasting events, conduct online sales, or even introduce their wines on their own websites.

Despite these constraints, the number of wine producers in Türkiye has continued to rise. According to the Alcohol and Alcoholic Beverages Department’s data from February 2021, there are 186 wine producers holding alcoholic beverage production licenses (Republic of Türkiye Ministry of Agriculture and Forestry, 2021a). Additionally, according to the Ministry’s 2020 activity report, 214 facilities that produce wine and other fermented alcoholic beverages—excluding beer—have a total capacity of 187 million liters (Republic of Türkiye Ministry of Agriculture and Forestry, 2021b).

Major Wine Regions of Türkiye

According to the 2020 report of the International Organisation of Vine and Wine (OIV), Türkiye, despite having lost 70 kha of vineyard area between 2013 and 2021, ranks fifth worldwide in terms of total vineyard surface. The country’s 431 kha of vineyards—where table grapes, dried grapes, and wine grapes are produced—constitute 5.9% of the world’s vineyards (OIV, 2021). Producing 261 thousand tons of dried grapes in 2020, Türkiye is the world’s leading producer of dried grapes and, with 243 thousand tons (USD 463 million) of exports, also ranks first in exports

(International Nut and Dried Fruit Council, 2020; Ministry of Agriculture and Forestry, 2021c).

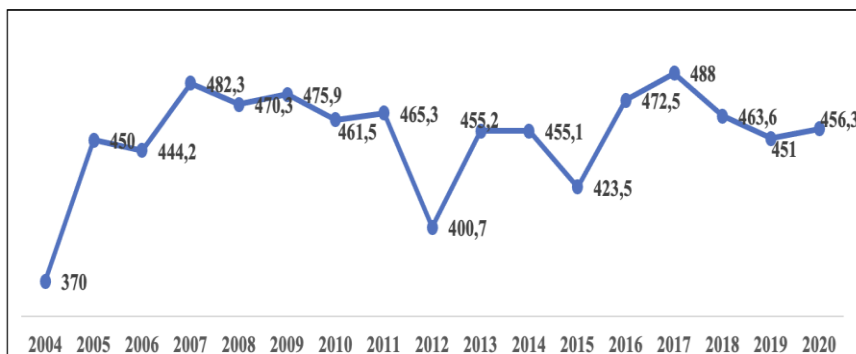


Figure 8. Türkiye's wine and must grape production volume (thousand tons) (2004-2020)

In 2020, Türkiye's total grape production reached 4.14 million tons, of which 456.3 thousand tons consisted of wine and must grapes (Figure 8). Thus, wine and must grapes account for approximately 11% of total production. When the amount of grapes used for must production is excluded, it becomes evident that the share of grapes used for winemaking is significantly lower. The OIV (2017) report indicates that grapes used for winemaking in Türkiye accounted for only 2% of total grape production in 2015. These figures indicate that Türkiye is not adequately capitalizing on wine as a high value-added product from an economic perspective. Özay et al. (2005) attribute this situation to two primary factors. The first is that Türkiye has not historically been recognized as a prominent wine-producing country until the recent past. The second reason is the relatively low domestic consumption of wine compared to other alcoholic beverages.

This observation requires careful consideration. As is the case with the development of many sectors, domestic demand constitutes a driving force for the advancement of viticulture and

winemaking. It is essential to emphasize that the leading wine-producing countries demonstrate a high annual wine consumption (e.g., the USA: 33.3 mhl; France: 23 mhl; Italy: 22.3 mhl) (OIV, 2025). Contrary to this global trend, the low domestic demand in Türkiye dramatically limits the full exploitation of its viticultural potential, despite the fact that favourable climatic conditions allow grape cultivation in every geographical region of the country (Table 1).

Table 1. Wine grape and must grape production quantities by region in 2020 and the regions' shares in total production

Region	Wine and Must Grape production(ton)	Production (%)
Akdeniz	24.226	5,3
Doğu Anadolu	46.036	10,1
Ege	110.785	24,3
Güneydoğu Anadolu	98.546	21,6
İç Anadolu	59.424	13
Karadeniz	57.952	12,7
Marmara	59.355	13

When the wine and must grape production data presented by regions in Table 1 are examined on a provincial basis, it is observed that wine and must grape viticulture was carried out in 42 provinces in 2020. While productions in some of these cities are minimal, others—such as Denizli, Kilis, and Tokat—stand out as major producers at the national scale. Figure 9 shows cities with production rates exceeding 1% of Türkiye's total wine and must grape production in 2020.



Figure 9. Cities with production rates exceeding 1% of Türkiye's total wine and must grape production in 2020

Wine Grape Cultivation and Wine Production in the Mediterranean Region

Due to its climatic characteristics, the Mediterranean Region has the lowest wine grape production in Türkiye. In the coastal zones—where summers are particularly hot—growing high-quality wine grapes is difficult. In contrast, the upland areas are known to be suitable for wine grape cultivation. Prominent local wine grape varieties of the region include Dökülgen, Kabarcık, Burdur Dimriti, and Sergi Karası (Tarım Kütüphanesi, n.d.). In recent years, certain French varieties as well as indigenous types such as Boğazkere and Öküzgözü have been added to the regional plantings.

The region's leading producer, Likya Winery, grows French varieties alongside Boğazkere, Öküzgözü, and Kalecik Karası in its vineyards located at an elevation of 1,100 m near Elmalı. The estate also cultivates local project grapes such as Merzifon Karası, Fersun, and Acıkara—a variety obtained from a 200-year-old vine (Süren,

2018). Similarly, Selefkia Winery uses long-forgotten local varieties such as Patkara, Aküzüm, and Göküzüm—grown in its vineyards at 1,005 m in Silifke—for winemaking (Puentes, 2020). Another Mersin-based producer, Tasheli Winery, focuses on Patkara, an endemic local variety (Tasheli, n.d.).

Wine Grape Cultivation and Wine Production in the Eastern Anatolia Region

When Türkiye’s indigenous red wine grapes are discussed, the first varieties that come to mind are Kalecik Karası, Boğazkere, and Öküzgözü. While Boğazkere and Öküzgözü are vinified as monovarietal wines, their blends are widely appreciated by wine enthusiasts due to the complementary tannin structures of the two grapes. These varieties are primarily cultivated in the provinces of Elazığ, Malatya, and Diyarbakır. In 2020, wine grape production in Malatya—a province within Eastern Anatolia—reached 5,440 tons, while Elazığ produced 39,504 tons (TÜİK, 2021c).

Elazığ, where nearly 60 grape varieties are grown—including table grapes—has two geographically indicated wine grapes: Boğazkere and Öküzgözü. With highly favourable climatic and soil conditions for viticulture, the city’s viticultural tradition was established by non-Muslim communities in the early 19th century. When Atatürk visited Elazığ in 1937, he greatly enjoyed the wine offered to him and requested that the region’s wine production potential be examined. As a result, an experimental workshop was founded in 1942, followed by a wine factory in 1945 (Yücel, 2015). In this factory, Boğazkere-Öküzgözü blends produced under the guidance of French experts were marketed by Tekel under the name “Buzbağ,” earning numerous international awards. With Tekel’s privatization, the factory was purchased by Mey Alkollü İçkiler Sanayi ve Tic. A.Ş. Initially established with a capacity slightly above 1 million litres, the facility now exceeds 6 million litres. The winery, which produces only red wine, also houses a 685-barrel

cellar dedicated to the maturation of premium wines (Karahasan, 2019). Moreover, Kavaklıdere Wines—one of Türkiye’s leading producers—maintains 22.8 hectares of Öküzgözü vineyards within the borders of Elazığ (Kavaklıdere, n.d.b).

Another province within the Eastern Anatolia Region that produces wine grapes is Malatya—better known for its apricots. However, as noted by Evliya Çelebi, the city historically had 7,800 registered vineyards, and numerous table, dried, and wine grape varieties have been cultivated there for centuries. In addition to Boğazkere and Öküzgözü, the Arapgir Köhnü grape—used both as a table grape and a wine grape—stands out. This variety was registered as a geographical indication in 2008 (Malatyadan.com 2018).

Wine Grape Cultivation and Wine Production in the Aegean Region

The Aegean Region is the part of Türkiye where the highest level of wine-grape production takes place. Although wine-grape cultivation has historically been widespread in the Region, wine production and viticulture—once dominated by minority communities in the Ottoman Empire—declined significantly after the population exchange. Due to religious considerations, many wine-grape vineyards were uprooted and replaced with table-grape vines or tobacco. In the early years of the Republic, winemaking in the Aegean Region regressed; however, it began to revive in the second half of the 20th century.

The hot summers, a characteristic of the Region causes grapes to ripen early, making it difficult to achieve high-quality results from wine grapes. Nevertheless, excellent wines are produced from grapes cultivated in the microclimates of Inner Aegean. Alongside large-scale producers such as Pamukkale and Sevilen, an increasing number of boutique wineries—Urla, Selendi, LA, Prodom, and Perdix among others—make significant

contributions to the Region's (and therefore Türkiye's) wine industry. In 2020, the province of Denizli—located within the boundaries of the Aegean Region—produced 74,832 tons of wine grapes, accounting for 16% of Türkiye's total wine-grape production (TÜİK, 2021c). Denizli ranks first among Turkish provinces in wine-grape production. The district of Güney, situated on a plateau at an elevation of 850 meters in northern Denizli, is often referred to as “Türkiye's Napa Valley.”

The resurgence of wine-grape cultivation in the Region occurred when increasing sugar production caused molasses sales to decline sharply in viticulture-intensive areas such as Güney. The Tokat family, engaged in agriculture, therefore decided to enter the wine sector and established the Pamukkale winery in 1962 with a capacity of 100,000 liters. Initially, contract farmers were trained in wine-grape cultivation. In addition to distributing vine stocks and grafting cuttings, comprehensive technical support was provided. Over time, farmers who had difficulty selling their tobacco crops also turned to viticulture. As Pamukkale Winery expanded, the district of Güney developed as well, shifting from out-migration to in-migration. This success encouraged other major producers—including Kavaklıdere, Doluca, and Sevilen—to establish vineyards in Güney (Tokmakoglu, 2016).

In the Aegean Region, wine-grape production also takes place in İzmir, Manisa, and Uşak, though in lower quantities compared to Denizli. Among the local and international grape varieties cultivated, Bornova Misketi holds a particularly important place. One of Türkiye's most well-known indigenous grapes, Bornova Misketi is also the first grape variety named in historical sources. In the 5th century BC, the renowned historian Herodotus mentioned Smyrna's fragrant “moskhatos” grape in his *Historia*. Thought to have originated in İzmir (Bornova) and its surroundings, this grape is believed to have been carried to Europe by Phocaean

sailors. Bornova Misketi belongs to the Muscat family, whose members are known by names such as Muscat, Moscato (Italy), Moscatel (Spain and Portugal), and Muskateller (Germany and Austria), depending on the country. Of the more than 200 members of this family, only four are considered noble: the white Bornova Misketi, Muscat of Alexandria, Muscat Blanc à Petits Grains (Macar Misketi), and the black Muscat of Hamburg. “Nobility” signifies that the grape has been cultivated as a wine variety in the same terroir for centuries. Wines produced from Bornova Misketi have been known to retain their popularity since antiquity, including during the Byzantine and Ottoman periods. However, due to the grape’s delicate nature, cultivation challenges, high production costs, price instability, shifts to alternative agricultural products, and the conversion of vineyards into urban development areas, production has steadily declined over time (Yankı, 2013; Örs, 2005).

Considering that a grape yields its best results in its native terroir, increasing the production of Bornova Misketi is important for Turkish winemaking. In recent years, the fact that numerous wineries in the Aegean Region have planted this grape and begun producing high-quality sweet, demi-sec, and dry wines is a significant development for both the regional and national wine industries. The registration of Bornova Misketi as a “Geographical Indication and Traditional Product” by the Turkish Patent and Trademark Office in April 2021 further underscores its importance (Turkish Patent and Trademark Office, 2021).

Wine Grape Cultivation and Wine Production in the Southeastern Anatolia Region

The Southeastern Anatolia Region accounts for 22% of Türkiye’s total wine-grape production. Diyarbakır, Kilis, Mardin, and Gaziantep are the provinces where wine-grape cultivation is carried out (TÜİK, 2021b). Prior to the establishment of the Republic, these provinces had significant Armenian and Syriac

(Assyrian) populations, and wine-grape viticulture and winemaking were activities largely undertaken by these communities. After their departure from the Region, winemaking activities were taken over by Tekel (Yalçın, 2006).

Kilis, one of Türkiye's smallest provinces by land area, ranked second in the country (after Denizli) in wine-grape production in 2020, with 56,292 tonnes (TÜİK, 2021c). Viticulture plays an important role in the local economy. One of the wine-grape varieties cultivated in Kilis is Rumi, a grape high in both juice and sugar, predominantly used in alcohol production in suma distilleries. For this reason, Tekel established a suma factory in Kilis in 1944. After the factory was privatized in 2008 and stopped purchasing grapes after 2013, many growers uprooted their Rumi vines and shifted to alternative crops such as olive and pistachio. Some of the remaining harvest is sent to the Tarsus suma factory, while the rest is processed into fruit juice or molasses. Another wine-grape variety cultivated in Kilis is Horoz Karası (Kilis Karası), which is also used as a raisin grape. Because this grape does not age well in wine form, much of its production is used for drying. Thus, although viticulture itself is not problematic in Kilis, the lack of local processing facilities and the reluctance of growers to sell grapes to wine producers have caused regional wine-grape varieties to be diverted to non-wine uses (İpekyolu Development Agency, 2019).

Diyarbakır is another major center of wine-grape viticulture in the region. Its significance derives from the fact that Boğazkere, a grape that pairs exceptionally well with Öküzgözü to form the renowned blend previously discussed, originates in this province. Too astringent to be consumed as a table grape, Boğazkere—with its thick skin and abundant seeds—is a quintessential wine grape. Cultivated mainly in the districts of Ergani, Çermik, and Çüngüş, this grape is purchased and processed by wineries across Türkiye (Yar, 2020).

Mardin, a province that has historically been home to numerous civilizations including the Sumerians, Assyrians, and Urartians, is among the leading provinces in Türkiye in terms of grape production. In 2020, approximately 162,000 tonnes of grapes were produced in the province, 14.5% of which were wine grapes. Nearly all of the grapes grown for winemaking are harvested from vineyards in the Midyat district (TÜİK, 2021d). In Midyat, wine-grape cultivation and winemaking are closely associated with the Syriac community. With a cultural heritage dating back 5,000 years and adherence to the Christian faith, wine holds an important place in Syriac culture. Skilled in agriculture, the Syriacs valued viticulture and developed considerable expertise in winemaking. Almost every Syriac household traditionally produced wine. However, due to various negative developments in Türkiye, Syriac populations began leaving the region. The final wave of migration, which began in the 1960s, intensified over time, reducing the local population to around 2,000 by the early 2000s. This demographic decline affected wine-grape cultivation and winemaking, causing production to fall. In this context, the winery founded in 2008 by Syriac entrepreneurs played a key role in branding Syriac wine. White wines are produced from local white grape varieties—Mezrone and Kerkuş—while mahlep (St. Lucie cherry seed) is added to Öküzgözü–Boğazkere blends to enhance aroma in red wines. With its narrative, locality, and distinctive flavor, Syriac wine has become an important touristic asset for Mardin (Turgut, 2016; Öz & Dönmez, 2018).

Wine Grape Cultivation and Wine Production in the Central Anatolia Region

The Central Anatolia Region, which possesses the second-largest surface area in Türkiye after the Eastern Anatolia Region, is known as the country’s “granary.” In addition to ranking first nationwide in wheat production, the Region also stands out in the

cultivation of legumes, sugar beet, and grapes. Archaeological findings indicate that viticulture in the Central Anatolia Region dates back to prehistoric times. On the İvriz Rock Monument, located within the borders of Konya Province and regarded as the world's first agricultural monument, the storm and fertility god Tarhundas is depicted holding an ear of grain in one hand and a grape cluster in the other. Beyond this 3,000-year-old artifact from the Late Hittite Period, numerous pottery and ceramic vessels and sculptures dating even further back also feature grape motifs. These findings demonstrate, as previously mentioned, that the vine was an important agricultural product for the Hittites who once inhabited Central Anatolia. The presence of legal provisions related to wine in Hittite law codes and references to wine in Hittite texts likewise indicate that wine production was practiced during this period.

Today, although viticulture persists throughout much of Central Anatolia, wine-grape cultivation is concentrated primarily in the provinces of Çorum, Kırıkkale, Karaman, Ankara, and Nevşehir (Doğaner, 2004; Ereğli Belediyesi, n.d.).

In 2020, Nevşehir produced approximately 43,000 tonnes of wine grapes, accounting for 9% of Türkiye's total wine-grape production. A significant share of this production takes place in the Cappadocia Region (TÜİK, 2021c). The broader Cappadocia Region encompasses the provinces of Nevşehir, Niğde, Kırşehir, Kayseri, and Aksaray, while the narrower mountainous Cappadocia area includes Göreme, Ürgüp, Uçhisar, Kaymaklı, Derinkuyu, Ihlara, and their surroundings. Having hosted numerous civilizations—including the Hittites, Persians, Romans, and Assyrians—the Region has yielded wine jars, grape-patterned artifacts, and grape-pressing and winemaking chambers in various underground settlements. These remnants clearly show that viticulture and winemaking have been practiced in Cappadocia since antiquity. Cappadocia possesses a tuff-rich soil structure formed by

volcanic activity. Beyond its suitability for producing high-quality grapes, this soil type is also significant because it does not allow the grapevine pest phylloxera to survive. Additionally, the relatively soft rock formations have facilitated the carving of ideal spaces for winemaking and wine storage (İşçen, 2004; Türkben et al., 2012).

Grapevine cultivation in Cappadocia is dominated by Emir, the Region's native white grape variety. Emir gained recognition in the early 1980s through Doluca's "Nevşah" wine. Frequently blended with Narince and Sultaniye, Emir is now among Türkiye's most widely recognized indigenous grapes. The red grape variety most commonly grown in the Region, Dimrit yields rather ordinary wines that are not suitable for aging (Yalçın, 2006). By contrast, high-quality wines are produced both from local red varieties adapted to the Region—such as Boğazkere, Öküzgözü, and Kalecik Karası—and from international varieties such as Cabernet Sauvignon, Merlot, and Shiraz. When winemaking in Cappadocia is mentioned, the first producer that comes to mind is Turasan, the Region's oldest winery. Founded in 1943 with a capacity of 3,000 liters, Turasan wines have since earned numerous international awards. Another prominent producer is Kocabağ, which began production in 1972 and transitioned to branded wine production in 1986 after years of bulk-wine output. Starting professional viticulture in 1990, Kocabağ today operates a modern winery with a capacity of 600 tonnes. In addition, Kavaklıdere Wines maintains its 183-hectare Côtes d'Avanos vineyards and a château-style winery with a storage capacity of four million liters within these vineyards (Kavaklıdere, n.d.c; Kocabağ, n.d.; Turasan, n.d.).

Although not as prominent as Nevşehir in terms of wine-grape production, Ankara -known historically as "Engrü," meaning "grape" in Persian- also stands out within the Central Anatolia Region. The District of Kalecik in particular is associated with Kalecik Karası, one of Türkiye's most important indigenous red

wine grapes. Often compared to France’s Pinot Noir, Kalecik Karası is notable for its versatility in winemaking. This refined and delicate variety is used to produce high-quality red, white, rosé, blush, sparkling, and sweet wines. Viticulture and winemaking with Kalecik Karası have been practiced in the District since as early as 4000 BCE. During the Ottoman Empire, production was carried out by non-Muslim communities, and the wines produced were shipped to Ankara and Istanbul, contributing significantly to the local economy. Viticulture was so central to the District’s economic life that Ziraat Bankası opened one of its earliest branches there. Over time, however, with the departure of non-Muslim minorities, Kalecik Karası viticulture and winemaking declined. To sustain this important economic activity, Tekel established a winery in the District and produced high-quality wines from Kalecik Karası under the name “Kalebağ” for many years. The phylloxera outbreak that began in the 1960s brought the grape to the brink of extinction by the 1980s. Kalecik Karası was saved through the collaborative efforts of Ankara University’s Faculty of Agriculture and Kavaklıdere Wines. As Kavaklıdere began producing monovarietal wines from Kalecik Karası that commanded high prices in Türkiye’s top restaurants, the “Kalecik Karası legend” was born. The grape also played a pivotal role in initiating the era of quality winemaking in Türkiye. Following its rise in popularity, Kalecik Karası began to be cultivated in other wine regions as well, including Denizli, Cappadocia, and Thrace. In Ankara, aside from Kavaklıdere, Vinkara and Tomurcukbağ are notable producers of Kalecik Karası wines. Tomurcukbağ was founded by Prof. Dr. Sabit Ağaoğlu, who participated in the clone-selection studies for the variety; he produces wines without the use of enzymes, cultured yeast, or chemical additives (Gök, 2017; Bircan, 2020; Yar, 2020).

In recent years, another grape variety whose prominence has increased in the Region is Hasandede, grown in Kırıkkale.

Threatened by phylloxera and unplanned urbanization, Hasandede takes its name from Hasandede Village, which has a history spanning 500 years. Two types are cultivated in the village—black and white Hasandede grapes. Both are used as table grapes, for molasses, and for wine production, though the white variety stands out for producing full-bodied wines suitable for barrel aging. Although three wineries once operated in Kırıkkale, the Hasandede grape had become so scarce—even for table consumption—that the Kırıkkale Provincial Directorate of Agriculture and Forestry launched a “Viticulture Project” in 2014. As a result, another endemic grape variety was saved from extinction (Manşet, 2015; Bağış, 2017).

Wine Grape Cultivation and Wine Production in the Black Sea Region

Numerous travelers and historians have reported that viticulture and winemaking were practiced in the Black Sea Region in the past. The geographer Strabo wrote in the 4th century BCE that fertile vineyards existed in and around Trabzon and that the wines produced there were shipped by sea to Venice. Similarly, Evliya Çelebi mentioned the vineyards of Trabzon during his 1640 travels. Historical sources also indicate that wine production took place in Giresun and Ordu, particularly in the district of Ünye. Viticulture and winemaking continued throughout the Byzantine and Ottoman periods, and the wines produced in the Region were exported for many years to several countries north of the Black Sea due to their low prices. However, following the opening of the Black Sea to European trade in 1779, the “mediocre” wines of the Region could not compete with Italian, French, and Spanish wines. Exports gradually decreased, and winemaking shifted to local consumption. The population exchange that took place after the Turkish War of Independence effectively brought wine production in the Region to an end (Yılmaz, 2017).

Today, apart from the provinces of Tokat—which accounts for 11% of Türkiye’s wine-grape production—and Çorum (2%), wine-grape cultivation is not practiced in the Black Sea Region (TÜİK, 2021c). This is largely due to fungal diseases caused by high precipitation, which prevent high-quality wine varieties of *Vitis vinifera* L. from being cultivated. Viticulture in Tokat is known to date back centuries. In the Province, situated at elevations ranging from 230 to 1,000 meters, the local grape Narince is cultivated on approximately 95% of planted vineyard land. Used also as a table grape and for molasses, Narince’s vineyard leaves have a geographical indication under the name “Erbaa Narince Vineyard Leaves,” and the production of brined leaves is an important economic activity in Tokat. When winemaking in Tokat is discussed, as in many other places in Türkiye, the historical presence of Armenians stands out. Armenians were known to produce wine in their homes and sell any surplus. Vasfî Diren, founder of one of Türkiye’s important wine producers, was inspired by Armenian winemaking techniques and began producing wine in the cellar of his home during his student years. After converting his home into a winery, he produced his first wines from the endemic Narince grape and laid the foundations of Diren Wines in 1958. Over time, Diren Wines enhanced its production quality through technological investments and by sending family members to receive winemaking education abroad. The winery has won numerous medals in national and international competitions, significantly contributing to the recognition of both the Region and Türkiye. The fact that Diren’s Narince wines are predominantly marketed abroad is particularly important for the international recognition of Türkiye’s endemic grape varieties (Bekar & Cangi, 2017; Grand National Assembly of Türkiye [TBMM], 2018; Diren, n.d.).

Wine Grape Cultivation And Wine Production in the Marmara Region

With 13% of national production, the Marmara Region is one of Türkiye's leading areas for the cultivation of wine grapes. Among the region's 11 provinces, Tekirdağ, Edirne, Kırklareli, and Çanakkale produce wine grapes (TÜİK, 2021c). These provinces are located in Thrace, the part of the Marmara Region situated on the European continent. In fact, Thrace is the name of a much larger geographical region that spans Greece, Bulgaria, and Türkiye. The Thrace referenced in this book, however, denotes the eastern section of the region located between the Meriç River and the Black Sea. It is worth noting that viticulture and wine production also constitute significant economic activities in the western parts of Thrace located in Bulgaria and Greece.

Thrace takes its name from the Thracians, who inhabited the area. Considered one of the earliest settled peoples of the Balkan Peninsula, the Thracians were described by Herodotus as one of the largest human communities of their time. Known for their warrior identity, the Thracians were also skilled in metalwork and viticulture. Metal wine cups unearthed during archaeological excavations indicate that wine was an important element of Thracian culture. Believing wine to be a sacred gift bestowed by Dionysus, the god of wine, the Thracians regarded wine consumption as a ritual enabling communion with the divine. Their description of wine as a “liquid that nourishes body and soul” is thought to explain the great importance they attached to winemaking. The wine god—called Zagreus in earlier periods and believed to have been reborn as Dionysus—held a central place in Thracian culture. Harvest-time rituals were particularly dedicated to Dionysus, as evidenced by depictions of the god found on excavated artifacts. From historians such as Homer and Herodotus, we learn that the Thracians were accomplished farmers and that the wine they produced was

considered “legendary.” Athenaeus described Thrace and its surroundings as “the homeland of sweet wine” and noted that Thracian wine was famous throughout the ancient world. According to Homer, ships carried Thracian wine to Greek warriors—indicating that Thracian wine was exported (Thrace Foundation, 2018; Stoyanova, 2019; Cherne, n.d.).

Limited historical sources reveal that the Thracians consisted of groups sharing a common language and customs but lacking a unified national identity. King Teres united a branch of the Thracians under the Odrysian Kingdom, though this unity did not last long. After the fall of the Odrysian Kingdom, the region came under Macedonian rule and officially became a Roman province in A.D. 46 (UNRV.com, n.d.). The Romans, as is well known, were highly advanced in viticulture and winemaking. Considering wine a daily necessity, they established vineyards and produced wine wherever soldiers and settlers were stationed as the Empire expanded. Following the adoption of Christianity, Roman production and consumption of wine increased considerably; much of this production was carried out by religious centers and monasteries (Ducard, 2019).

After the Roman Empire split into two in A.D. 395, Thrace remained within the boundaries of the Eastern Roman (Byzantine) Empire. During this period, Thracian wine continued to be highly valued and exported to many regions. In particular, wine from the Ganos (Şarköy) region—known as “Ganitic” and considered above-average in quality—was shipped not only to various regions of the Empire but also to countries along the Black Sea coast, as well as to southern Italy and Egypt. Excavations conducted during the construction of the Marmaray railway uncovered Ganos amphorae in three ships dating from the 5th–11th centuries at the site of the former Theodosius Harbor, supporting this evidence of trade. Similarly, during the Middle Ages, wine produced around Kırklareli

was transported by ox caravans along routes referred to on maps as “wine roads” to K1y1k1y, from where it was shipped to Marseille and Venice (Karagiorgiou, 2004; Yank1, 2015; Lafl1, 2017).

The conquest of Constantinople by the Ottomans, which marked the end of the Middle Ages and the beginning of the Early Modern Period, resulted in the disappearance of the Byzantine Empire. However, it is known that the Ottomans began their conquests in Thrace nearly a century before the fall of Constantinople in 1453. Due to Islamic religious prohibitions, Ottomans generally disapproved of both the consumption and production of wine, which led to wine production across the Empire—including in Thrace—being primarily carried out by non-Muslim communities. These communities were permitted to sell surplus production among themselves, and the state collected taxes from such transactions (Yıldırım, 2021). At times, the revenue derived from these taxes discouraged attempts to impose complete bans on wine production for non-Muslim subjects. According to amlıca, in the late Ottoman period, a 15% tax was imposed on wine due to the Empire’s public debt to the Ottoman Public Debt Administration (Düyun-u Umumiye). Producers of wine made from Papaskarası, a local grape variety, played a significant role in contributing to the repayment of these debts (amlıca, 2020).

The Balkan Wars, followed by World War I and the Turkish War of Independence, left vineyards neglected throughout Thrace and negatively affected viticulture. Nevertheless, Tekirdağ Deputy Cemil Bey and his colleagues emphasized the importance of viticulture for Thrace in a proposal submitted to the Turkish Grand National Assembly on 1 September 1923. In the proposal excerpted below, they recommended amending Article 1 of the 1920 Prohibition Law (Men-i Müskirat Kanunu)—which banned all production, importation, sale, and consumption of alcoholic

beverages—to allow wine production for export in regions where viticulture was the primary agricultural activity (Çetintaş, 2017).

“Viticulture—which holds significant agricultural value and constitutes the sole means of livelihood for thousands of our citizens—is extensively practiced in Thrace, particularly in the sancaks of Edirne and Kırklareli, and especially along the Marmara coast. Although Thracian grapes are partly consumed fresh, the majority of the grapes produced in Kırklareli, Şarköy, Mürefte, Çanta, and Silivri are wine grapes. As this region is unsuitable for other forms of agriculture, its grapes also cannot be dried or used for the production of non-alcoholic products such as molasses. From the yield of approximately fifty million vine stocks cultivated solely in the Marmara coastal zone, millions of liters of wine had been produced and exported each year, thereby benefiting both the local population and the Government.

Following nearly two and a half years under enemy occupation, our beloved Thrace—now thankfully liberated—has seen about eighty percent of its existing vineyards brought back into operation this year through great labor and expense. As a result, an unprecedented increase in abundance has led to a harvest far exceeding that of previous years. If, in accordance with the Prohibition Law, the production and export of wine from the grapes grown in Thrace is not permitted as it once was, approximately fifty to sixty million okkas of grapes will rot and be wasted...”

Although the Prohibition Law was repealed in 1924, the population exchange mandated by the Lausanne Treaty dealt a significant blow to winemaking throughout the country, including Thrace. Because the Greek population—who were experts in viticulture and winemaking—was forced to leave the region, many vineyards in Thrace were abandoned. However, with the support of the young Republic, which regarded winemaking as an important agricultural industry, Muslims were also encouraged to enter the

sector. In Thrace, Nihat Kutman became a pioneer. As noted earlier, Doluca (previously named Vinikol), one of the Republic's first wine producers, began operations in 1926 using grapes grown in the Mürefte vineyards.

An important development for viticulture in Thrace and in Türkiye more broadly was the establishment, based on the report of French expert Bouffart, of a wine factory in Tekirdağ in 1931. Built on 104,600 square meters, this facility was the country's first industrial-scale winemaking plant. With an initial capacity of 2.5 million liters (1 million liters production, 1.5 million liters cellar storage), the factory's grounds also served as a trial vineyard where European wine grape varieties were cultivated. Over time, production capacity increased, and until 1942 the plant produced only wine. Due to the abundance of grapes in the region, cognac production began after 1942. By 1946, production capacity reached 4.5 million liters. In 1967, rakı stills were installed, enabling the production of wine, cognac, and rakı. The rakı produced—marketed as “Yeni Rakı”—became widely popular and came to be known as “Tekirdağ Rakısı.” Registered as a brand in 1995, Tekirdağ Rakısı can be considered the first geographically indicated spirit in Türkiye, given its use of grapes and anise sourced from designated areas and its exclusive production at the Tekirdağ Alcohol Plant. By 1976, wine production capacity had reached 16 million liters, and gin production began in 1980. Rakı production, which began with two stills, reached 66 stills by 2004. In 2007, total production reached 7 million liters, 3 million of which were exported. As the raw material for rakı is grape-based, the factory supported the development of viticulture; it also contributed to the cultural life of the province through sports such as golf, tennis, and swimming. Despite these socio-economic benefits, the factory—one of the first major state investments in Tekirdağ—ceased operations in 2017 following the

privatization of TEKEL (Aykırı Akademi, 2017; Çorlu Haber, 2017).

During the same period, the Tekirdağ Viticulture Research Institute was established to distribute American grapevine rootstocks resistant to phylloxera and to advance regional viticulture. Founded in 1930, the Institute began project-based research in 1958 and, starting in 1979, collaborated with relevant institutions to address problems in grape production. Continuing its activities in production, research, and training, the Institute remains highly significant not only for Thracian viticulture but for viticulture nationwide (Republic of Türkiye Ministry of Agriculture and Forestry, 2021c).

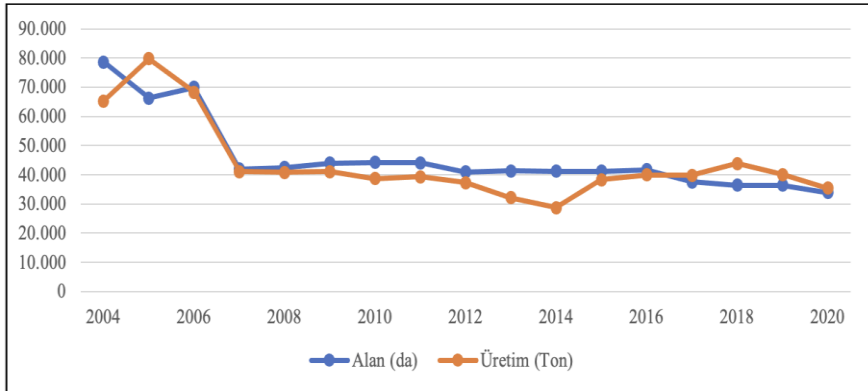


Figure 20. Wine grape vineyard areas and production quantities in the Thrace region between 2004 and 2020

Despite the Institute's contributions, the closure of the Tekirdağ Alcohol Plant had negative consequences, particularly for wine grape cultivation. As illustrated in Figure 20, wine-grape vineyard area and production quantity in Thrace declined significantly after the privatization of TEKEL in 2004. Marketing difficulties faced by grape growers played a major role in this decline. The withdrawal of TEKEL from the market created a vacuum that was difficult to fill, and private producers, unable to sell

their wine due to rising excise taxes (ÖTV), worsened the situation. The lack of grape purchases by private wineries—or purchases at prices too low to cover costs—led to financial losses for growers. As a result, wine-grape vineyards were uprooted, decreasing by more than 50% within a few years (Gürer, 2005). Nevertheless, the emergence of successful boutique wineries in Thrace from the early 2000s—mirroring national trends—helped prevent further declines, even if it did not significantly increase vineyard area or production.

Although Tekirdağ has experienced a reduction in wine-grape acreage over the past fifteen years, it remains one of Türkiye's most important wine-grape producing provinces. Two-thirds of all wine grapes produced in Thrace are grown in Tekirdağ. Following Tekirdağ, the highest production levels within the Thracian section of the region occur in the Eceabat and Gelibolu districts of Çanakkale (TÜİK, 2021c).

Wild grapevines (*Vitis silvestris* Gmel.) are found in various forested areas, as well as along streams and lakes, within the borders of Çanakkale Province—particularly around Mount Ida (Kazdağı), the Gallipoli Peninsula, and the Central District. The presence of wild grapevine in the province is evidence that local cultivars of *Vitis vinifera* L. emerged as a result of thousands of years of natural selection. This situation demonstrates that viticulture in Çanakkale dates back to very ancient times. Archaeological findings uncovered during excavations support this view. Wine cups and amphorae found in the ancient city of Troy, as well as coins bearing depictions of grape clusters and Dionysos unearthed in Bozcaada and Lapseki, indicate that viticulture and winemaking in Çanakkale extend back to prehistoric periods (Dardeniz et al., 2001).

Wine production along the shores of the Dardanelles was also known to be an important economic activity during the Byzantine period. Excavations on both sides of the strait have revealed Byzantine-era wine production facilities. These facilities, unlike

ordinary workshops, are commercial enterprises with large capacity and advanced equipment. The widespread cultivation of grapes in the region and the presence of multiple port cities suggest that wine production constituted a significant source of income, prompting the construction of such commercial facilities. One such workshop was uncovered in excavations in Eceabat, formerly known as Maydos, and is estimated to have been in use until the 14th century CE (Koçyiğit, 2017).

Ottoman sources also refer to Eceabat as a town renowned for its vineyards and orchards, and wine production continued there during the Ottoman Empire. Indeed, Evliya Çelebi wrote of Eceabat: "... its vineyards are many; therefore, the wine of Madytos (Eceabat) is famous...". Similarly, French embassy official Fresne-Cannaye described Eceabat as "a Turkish village famous for its unparalleled wines" (Yankı, 2015). Unfortunately, this geography—where viticulture was so prominent—later witnessed one of the greatest wars in history, the Gallipoli Campaign. During this period, grape production declined significantly, as was the case with all agricultural production. Due to the neglect of vineyards throughout World War I, vineyard areas in the province decreased by 70%. Additionally, in the following years, the phylloxera pest appeared in Çanakkale's vineyards. First observed in 1855 in the vineyards of Kızıltoprak in Istanbul, phylloxera spread rapidly and reached the vineyards of Thrace. It caused severe damage particularly in the 1920s–1930s. On the Gallipoli Peninsula, phylloxera became especially destructive after 1925 and disrupted viticulture. Population exchange during the same period further harmed viticulture on the peninsula, as grape growing and especially winemaking had largely been carried out by the Greek population, while the incoming exchange population had entirely different occupational backgrounds (Dardeniz et al., 2011).

The abolition of the “Aşar” tax in 1925 constituted a major development for viticulture in Çanakkale, as in the rest of the country. Subsequently, new viticultural practices were introduced, including the use of American rootstocks. The cultivation of these rootstocks was carried out through extensive efforts by the Tekirdağ Viticulture Research Institute and the Çanakkale Fruit-Growing Production Station. The propagated rootstocks were distributed to growers free of charge for many years. Re-establishing vineyards destroyed by phylloxera in Thrace took about 30 years, between 1930 and 1960. By the early 1960s, annual wine production in Çanakkale exceeded 2 million liters. The increase in wine shipments from the province encouraged growers to return to wine grape cultivation. The cultivation of Kuntra, a local grape variety, was particularly supported by the state. To process this grape, the Çanakkale Tekel Wine and Brandy Factory was established in 1962, providing employment and significant support to regional growers. The Bozcaada Wine Factory followed in 1986, and a grape must processing facility for brandy production opened in Bayramiç in 1996. These investments increased the vineyard area in Çanakkale from 33,333 decares in 1933 to 64,890 decares by 1999—nearly doubling. Fresh grape production also doubled during the same period, with wine grapes accounting for two-thirds of the output. However, the suspension of operations at the Çanakkale Fruit-Growing Production Station in 2003 as part of privatization efforts, along with the closure of the Çanakkale Tekel Wine and Brandy Factory in 2007, adversely affected viticulture, leading growers to uproot vineyards (Dardeniz et al., 2011).

As of 2020, two-thirds (30,411 decares) of the cultivated vineyard area in Çanakkale Province is planted with wine grapes. The Gallipoli Peninsula has recently become a favored viticultural region for boutique wine producers, and its wine grape vineyard area has been expanding steadily. In the District of Gallipoli, wine grape

vineyard area increased from 550 decares in 2004 to 1,150 decares in 2020—nearly doubling in 16 years. Similarly, vineyard area in Eceabat grew from 2,230 decares to 4,316 decares during the same period (TÜİK, 2021e). Suvla, one of the peninsula’s largest producers, received organic certification in 2013 for its approximately 700-decare vineyards, established in 2003 under good agricultural practices (Suvla, n.d.). Another significant producer, Porta Caeli, practices sustainable viticulture on its 1,700 decare vineyards. The estate also operates a wine tourism facility—an art- and technology-infused hotel—underscoring the connection between viticultural development and tourism (Porta Caeli, n.d.). Another notable investment in Eceabat is the Asmadan winery, which purchased the Kayalitepe vineyards and started production in 2018. Its vineyard hotel, Bengodi, opened in June 2021, featuring luxurious rooms, a restaurant, and even a wine history museum. These two hotel investments are important examples demonstrating how the development of winemaking in a region contributes to tourism and how the two sectors mutually reinforce each other.

Another province in the Thrace Region known for wine grape production is Kırklareli, which possesses highly suitable climate and soil conditions for viticulture. Thus, Kırklareli has been a center of viticulture and winemaking throughout history. Archaeological research in Kırklareli and its surroundings has uncovered cult areas with small basins thought to have been used for holding grape must, serving as evidence of early viticultural activity. Reliefs depicting Dionysos discovered in excavations in the Vize district—dating to the Roman period—also indicate that wine production took place in the region during that era (Alabaşoğlu, 2012).

Historical maps of Kırklareli show the existence of an important trade route known as the “wine road.” As noted earlier, this route demonstrates that winemaking was a significant economic activity in the region. Wine stored in barrels was transported by

buffalo carts to the ports of Kiyıköy and İğneada, from where it was shipped to cities such as Venice and Marseille (Laflı, 2017).

In his travelogue, Evliya Çelebi wrote that when he visited Kırklareli in 1658, the vineyard area measured 20,000 decars, describing the vineyards' density by saying "a man walking inside could lose his way" (Karaçam, 2012). Viticulture continued during the Ottoman Empire as well. Ottoman yearbooks record that approximately 6,600 tons of wine were produced in Kırklareli (then known as Kırkkilise) during 1891–1892, with much of the production exported to Austria, France, Yemen, Egypt, Bulgaria, and Eastern Rumelia. The phylloxera epidemic in Europe positively influenced the development of winemaking in Kırklareli. Kırklareli wines and champagnes, renowned in Europe, were exported by train to France—a country severely affected by phylloxera—contributing significantly to the city's economy. Yannakopulu recounts that priests even prayed during church ceremonies for the French to return and purchase the wines produced there. Records indicating that winemaking was among the most profitable revenue sources for the Kırklareli Office of the Ottoman Public Debt Administration further underscore the economic importance of the industry (Kanal, 2016; Doğruöz, 2021). As mentioned earlier, these wines were produced from the Papaskarası grape. This local variety is a Balkan grape believed to be a natural hybrid of Romania's Prokupac and Serbia's Alba Imputotato. Across the Balkans, the grape is known by names similar to "papaskarası." Marcel Biron, who studied the grape between 1938 and 1946, considered it one of the best local varieties. Papaskarası has long been cultivated in Kırklareli and its surroundings, where it has been converted into wine for many years (Çamlıca, 2015).

In Kırklareli, wine production was carried out by the Greek and Jewish communities. After the phylloxera damage to the vineyards, the Jewish population gradually abandoned winemaking,

whereas the Greeks continued the practice—particularly the wealthier families, who were known to be engaged in the production of alcoholic beverages such as raki and wine. Muslims, by contrast, used grapes to make products such as molasses and fruit leather, as well as a beverage called *hardaliye*. Avoiding wine due to its alcoholic nature, Muslims consumed hardaliye, made from ripe fresh grapes, sour cherry leaves, and black mustard seeds (which prevent fermentation). Hardaliye, which had almost fallen into obscurity, has recently begun to be produced commercially. Known to be rich in antioxidant compounds such as resveratrol and quercetin, hardaliye received Geographical Indication registration in 2017 (Karlıbağ Hardaliye n.d.; Doğruöz, 2021).

Another indicator of the city's historically extensive vineyards is the name given to it by the Bulgarians. At the beginning of the 1900s, because vineyards constituted 70% of Kırklareli's cultivated land, the Bulgarians called the city *Lozengrad*, meaning "city of vineyards" (Doğruöz et al., 2020). However, the phylloxera that began to affect Kırklareli in 1907 caused a reduction of 33,000 decars in vineyard area within two years. In 1912, the Balkan Wars began, and the city fell under Bulgarian occupation, which ended with the Istanbul Treaty signed after the war. The Balkan Wars were followed by the First World War, which began in 1915. The war and the subsequent Greek occupation—just as in other provinces of Thrace—resulted in the neglect of vineyards in Kırklareli. In addition to the adverse impacts of war, the uprooting of vines for fuel during harsh winters further hindered viticulture. By 1922, the year Kırklareli was liberated from Greek occupation, the vineyards were entirely ruined. In the post-war period, as viticulture was no longer considered profitable, the populace turned to tobacco cultivation. Although the tobacco produced was of high quality, the fact that low-quality tobaccos were also labeled "Thrace tobacco" caused prices to fall, prompting a renewed interest in viticulture. In 1934, new

vineyards were established on lands distributed by the government, where American rootstocks were planted. It is known that Dr. Fuat Umay, the Kırklareli Member of Parliament, also set an example for the public by undertaking a significant financial burden to establish a 60 dekar vineyard (Kat, 2016). Despite these efforts, Kırklareli's pre-war vineyard area of 120,000 dekar had declined to approximately 6,000 dekar by 1938 (Dardeniz et al., 2011). Unfortunately, no significant progress has been made in vineyard expansion over the subsequent 72 years. According to TurkStat (TÜİK) data, Kırklareli's total vineyard area in 2020 was 4,548 dekar. Notably, while only 650 dekar of the 5,200 dekar of vineyards in 2007 consisted of wine grapes, by 2020 more than half of all vineyards were producing wine grapes, which generate higher added value. In 2020, 2,405 tons of grapes were harvested from 2,394 dekar of wine-grape vineyards in Kırklareli (TÜİK, 2021c).

Boutique producers such as Arcadia Winery, Chamlija Winery, Vino Dessera Winery, and Saranta Winery—each operating vineyards in Kırklareli and earning numerous national and international awards—have played a major role in increasing interest in wine-grape production. Among these producers, Arcadia Winery and Vino Dessera Winery not only offer food and beverage services in their restaurants but also conduct wine tastings. These establishments additionally provide accommodation in vineyard hotels for visitors who come to tour the wineries and vineyards in the region.

Another province in the Thrace Region where wine-grape cultivation takes place is Edirne. Established by the Thracians, Edirne became the capital of the Odrysian Kingdom—known as *Odrysia*—in the 5th century BCE, after the Persians' rule in Thrace ended. Following Thrace's incorporation into the Roman Empire in 46 CE, the city was rebuilt by Emperor Hadrian, hence the name *Hadrianopolis*, meaning “the city of Hadrian.” Over time,

this name evolved into *Edirne*. After the fall of the Roman Empire, Edirne remained within the borders of the Eastern Roman Empire until it was conquered by Sultan Murad I in 1361 and incorporated into Ottoman territory. The city became the capital of the Ottoman Empire in 1365 and retained this status until the conquest of Istanbul (Çolak et al., 2017).

Although Edirne's climate and soil structure make it suitable for growing many agricultural products, historical sources show that the city was once surrounded by vineyards and that viticulture was among its most important agricultural activities. Gerlach, who visited Edirne in 1578, reported that the city, surrounded by orchards and vineyards, produced a pleasantly drinkable wine similar in taste to Muscat wine. Covell, who visited the city in the 17th century, also mistated that a fine-tasting wine was produced there and that the people of Karaağaç, whose main source of livelihood was wine trade, made payments to the Janissary Agha to secure the marketing of their wine. Covell further noted that a priest, the town's largest wine merchant, kept his wines in the church. Probate records from the same century indicate that non-Muslims engaged in viticulture and sold the wine they produced from their harvested grapes (Kuşu, 2019).

According to the *Edirne Yearbooks (Salname)* prepared between 1870 and 1903 (28 volumes), grapes were still among the important agricultural products of the city in the 19th century. For example, in 1891, 3,000 tons of wine—most of which was exported to Europe—and 460 tons of rakı were produced from the grapes grown in the Edirne district. In Uzunköprü district, 5,369 decars of vineyards existed. In the Havsa district, Zalif and Aslıhan villages had 8,614 decars of vineyards; Şerbettar and Hamzabey villages had 1,100 decars; and the remaining vineyards, totaling 12,000–12,500 decars, were located in Havsa town center and nearby villages. In addition to white and black grapes, the Karalahana grape,

cultivated in Zalif and Aslıhan villages after 1880, yielded an annual average of more than 1,900 tons of wine. Due to the fact that most of the wines produced were exported—primarily to Europe—merchants from Edirne opened shops in these villages (Kayıcı, 2013).

Edirne, which maintained its importance as a viticultural region until the early 20th century, fell under Bulgarian occupation for four months during the Balkan Wars in 1912–1913 and was later occupied by Greece between 1920 and 1922. In addition to the neglect or destruction of vineyards during wartime, the population exchange following the Treaty of Lausanne—during which Rum communities who engaged in viticulture, winemaking, and sericulture were relocated—had a detrimental impact on viticulture and winemaking in Edirne. With the arrival of the exchanged population, tobacco and sunflower cultivation became more widespread.

Today, wheat accounts for 42%, sunflower for 29%, and rice for 16% of Edirne’s 3,108,971 dekar of arable land. Vineyards constitute only 0.16% of total arable land. The vineyard area, which was 20,196 dekar in 2010, declined by approximately 75% over the past decade to 5,147 dekar. Similarly, wine-grape vineyard area decreased from 8,278 dekar to 3,107 dekar. Wine-grape cultivation in Edirne is primarily concentrated in the Uzunköprü district, where vineyard area decreased from 6,520 dekar to 2,000 dekar during the same period. Today, wine grapes are also grown in İpsala (526 dekar), Havsa (260 dekar), Edirne city center (203 dekar), and Meriç (118 dekar) (TÜİK, 2021f; Edirne Sanayi ve Ticaret Odası, n.d.).

Despite the decline in total vineyard area, there have been recent developments in wine-grape cultivation and wine production in Edirne. Uzunköprü district, which holds two-thirds of the province’s wine-grape vineyards, is particularly notable for

Papaskarası production in its Yeniköy neighborhood. Wines made from Papaskarası—a variety that has shown successful results not only in Kırklareli but also in Edirne and Uzunköprü—were among the most favored wines during the Ottoman period. In the Republican era, Papaskarası gained popularity especially in the 1960s, leading to widespread planting throughout Thrace. However, the grapes grown under unsuitable conditions failed to produce wines of the expected quality. Phylloxera in Papaskarası vineyards and the rising preference for wines produced from foreign grape varieties caused the variety to be largely forgotten (Yalçın, 2019).

In recent years, boutique producers in the Thrace Region have revived Papaskarası and begun using it in wine production once again. Öktem Bağcılık, one such producer, established vineyards in Yeniköy and Kırcaali beginning in 2001, where Papaskarası is the predominant variety. Arda Bağcılık, located 10 km from Edirne city center, began planting vineyards in 2006 and produced its first wines in 2012. The winery produces wines—some of which have won gold and silver medals in international competitions—from carefully selected Papaskarası grapes as well as Cabernet Sauvignon, Merlot, Shiraz, Narince, and Sauvignon Blanc. In addition to viticulture and wine production, both producers contribute to wine tourism by offering dining and tasting experiences in their on-site restaurants (Edirne, n.d.; Hudut Gazetesi, 2016).

Conclusion

This study has provided a comprehensive comparative analysis of the global wine industry, establishing a framework to evaluate Türkiye's position within the international market. By examining the production dynamics of the "Old World" giants—France, Italy, and Spain—alongside the aggressive export strategies of the United States, Australia, and Chile, it is evident that global leadership in viticulture is driven by a combination of historical prestige, regional specialization, and adaptability to market trends.

Against this global backdrop, the detailed examination of Türkiye demonstrates that the country possesses both a profound historical legacy and significant ecological diversity suitable for high-quality wine production. As highlighted in the regional analyses, from the established vineyards of the Aegean and Marmara regions to the distinct terroirs of Eastern and Southeastern Anatolia, Türkiye offers a wide spectrum of viticultural potential. The data regarding grape cultivation across these diverse climates—including the Mediterranean and Black Sea regions—underscores the capacity for a varied and robust domestic industry.

In generally, while the global market remains competitive, dominated by established powers, Türkiye's deep-rooted history and favorable geographical conditions provide a strong foundation for growth. Realizing this potential requires a continued focus on regional distinctiveness and quality standards, mirroring the successful models observed in the major wine-producing countries analyzed in this work.

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